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Operations Manual Includes:

Game Setup - Testing & Adjustments - Parts Information - Reference Diagrams & Schematics - Service & Troubleshooting

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Manual Release 3.5

Information current at time of release.

Visit our customer support website, ***<http://support.jerseyjackpinball.com>***, and register your game. Be sure to include the game serial number. For your records, write the game serial number in the manual.

Serial Number _____

Jersey Jack Pinball® reserves the rights to make modifications and improvements to its products. The specifications and parts identified in this manual are subject to change without notice.

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Congratulations!

You're about to dig into what we believe to be a wonderful resource for you to learn about Jersey Jack Pinball®'s first game, The Wizard of Oz.

This book was a labor of love from Butch Peel, who has an amazing **Passion** for **Pinball** and a knack for providing useful, easily understood, technical information to support this amazing product.

We have great resources to support the game, but If you ever need to contact me directly, my information is below.

This Award-Winning game has already set many new records for innovation and for earnings on commercial locations. It has broken down the door to the 21st century for pinball machines and is truly sensory overload. The game has been lovingly called "playable artwork" and, with all of the accolades the game gets, it is wonderful to hear more good news every week.

Hundreds of people believed we could build a great game and bought into it - without seeing or playing it. They created JJP® and we thank them. Hundreds of people worked tirelessly to create this game, the company, the parts and the factory. We built this game with **Passion** and with our love for **Pinball**.

It has opened the door to people who have never played pinball: young people, women and those who are discovering it for the first time. It has rules and modes so deep that expert players keep coming back for more. You may be tempted to play with the glass off just to make things happen!

We thank everyone who believed in us when there was nothing to show for it. We thank all of the people today who believe in what we will bring to **Pinball** in the future.

Hang on, because we are just starting to get rolling...

Best Regards,

Jack Guarnieri
President, Jersey Jack Pinball®

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- Warranty Information
- Warnings & Notices

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Section A

Game Assembly & Setup



JERSEY
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A.1 Unpacking Your WOZ Game

1) Using wire cutters, remove all shipping bands from the outside of the carton, noting the side with the “TRUCK THIS SIDE ONLY” marking (see figure A1). With a utility knife and needle-nose pliers, carefully cut the tape and remove all staples along the seams of the carton’s top flaps, then fold them open (see figure A2). Remove the large, flat sheet of cardboard. Pull out the large parts box (red in figure A2) and remove its contents. Check all loose parts against the packing list on this page.

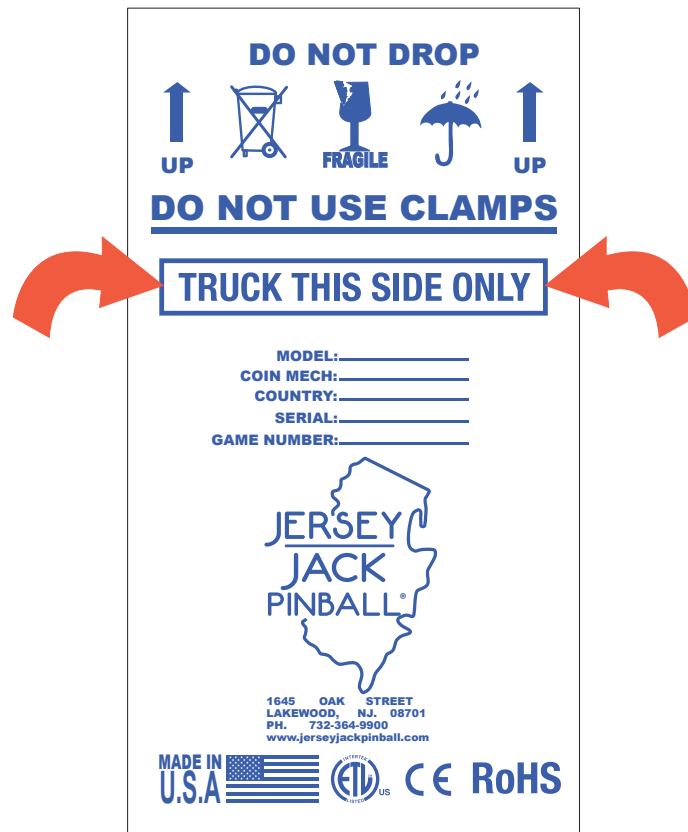


Figure A1. The “TRUCK THIS SIDE ONLY” side of the box.

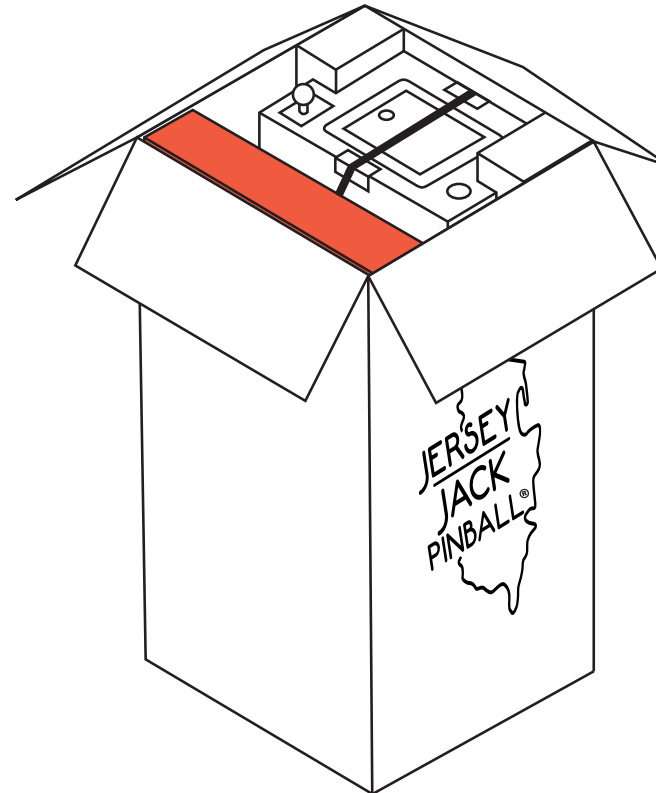


Figure A2. Opening the shipping carton.

Tools Required:

Wire cutters
Needle-nose pliers
Utility knife
Ratchet and 5/8” socket (or 5/8” wrench)
#2 Phillips screwdriver
Torpedo bubble level

Large Parts Box Packing List

4 pinball machine legs, with levelers and tightening nuts
4 heavy, felt cabinet protectors (LE games only)
8 acorn-head leg bolts
1 topper plastic, laser-etched
1 plumb bob weight, with nylon wing nut
5 steel mirror-finish pinballs
1 line power cable, country-specific
1 “L”-shaped, 5/16” hex key
6 assorted spare game decals
1 spare set of slingshot plastics
7 assorted plastic game key fobs
1 WOZ plastic desktop sign, with feet

Note: If anything is missing from your parts box, send an email to warranty@jerseyjackpinball.com for a replacement.

If you wish to save your shipping carton:

2) REMOVE ALL STAPLES FROM THE OPEN CARTON FLAPS (to protect the sides of your cabinet). With the help of at least one other person, carefully tip the carton over and lay it on its “TRUCK THIS SIDE ONLY” side (see figure A3a). Using the nylon strap as a handle, slide the game and packing materials out of the carton.

Note: You may need to spread a blanket or some other form of cushion under the game to protect the floor.

3) DO NOT CUT THE NYLON STRAP holding the backbox down at this point. Remove the foam padding from the corners of the game and carefully stand it upright again (as it was in the carton during shipping).

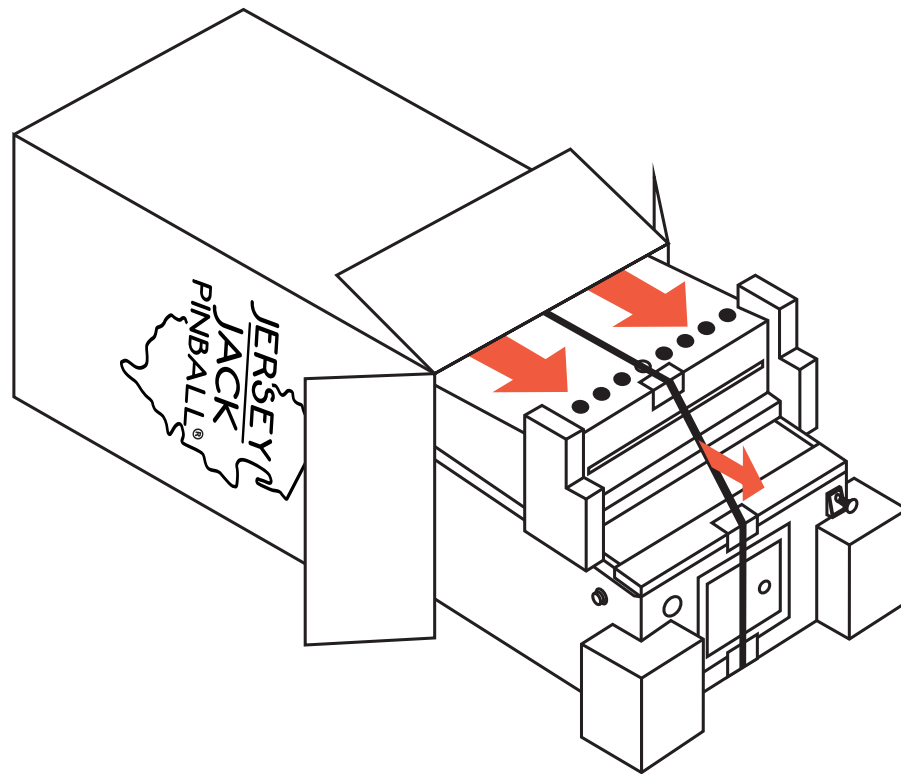
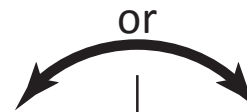


Figure A3a. Sliding the game out of the carton.



If you do not wish to save your shipping carton:

2) Using a utility knife, remove the “TRUCK THIS SIDE ONLY” side of the shipping carton (see figure A3b). Carefully cut down the left and right sides of the box. Let the flap fall to the floor, then cut across the bottom edge (taking care not to damage the floor).

3) DO NOT CUT THE NYLON STRAP holding the backbox down at this point. Remove the foam padding from the corners of the game.

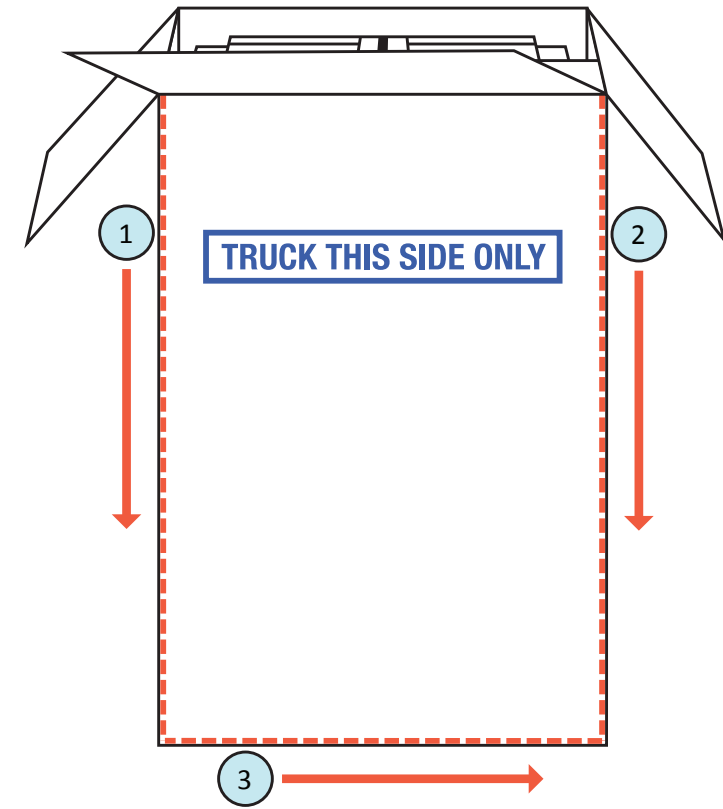


Figure A3b. Removing the “TRUCK THIS SIDE ONLY” side of the carton.

4) Locate the game's four legs. Adjust the tightening nut and leg leveler on each leg (see figure A4). For the two front legs, position the nut all the way down, next to the foot of the leveler. For the two rear legs, position the nut approximately two-thirds of the way up the leveler. Thread the leveler into each leg until the tightening nut is against its underside.

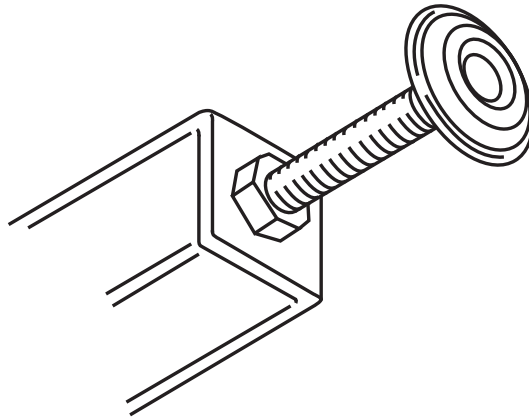


Figure A4. Adjusting a leg leveler and tightening nut.

5) Locate the four heavy, felt cabinet protectors (LE games only) and eight acorn-head leg bolts in the loose parts. Position a felt cabinet protector behind each leg, thread 2 leg bolts through the leg and protector, and attach both to the cabinet (see figure A5). Using a 5/8" socket and ratchet or a 5/8" wrench, tighten the bolts firmly, while maintaining pressure (in the direction of the red arrow) on each leg.

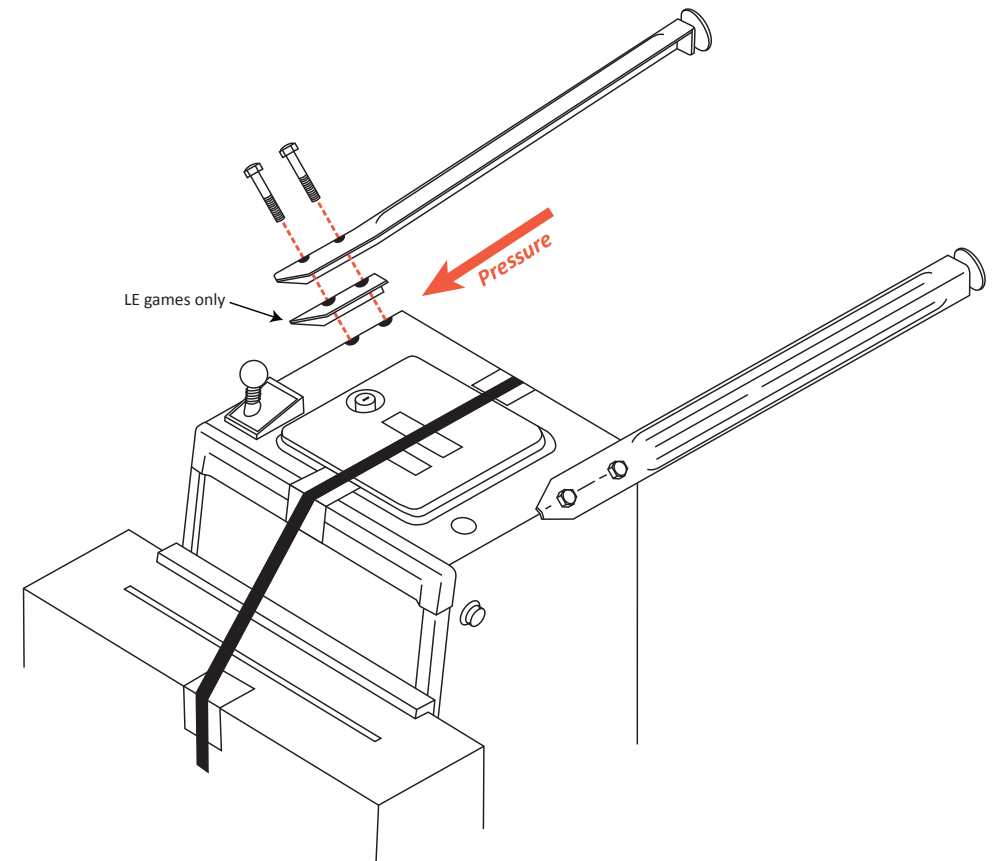


Figure A5. Installing the front legs and cabinet protectors.

6) With the help of at least one other person, carefully tip the game onto its front legs. Lift the rear of the cabinet and have two people support it or place it on a sturdy support. As with the front legs, attach the two rear legs, using the four remaining acorn-head bolts and two cabinet protectors (LE games only). Tighten all bolts firmly, while maintaining upward pressure on the legs (see figure A6). Lower the game onto its legs.

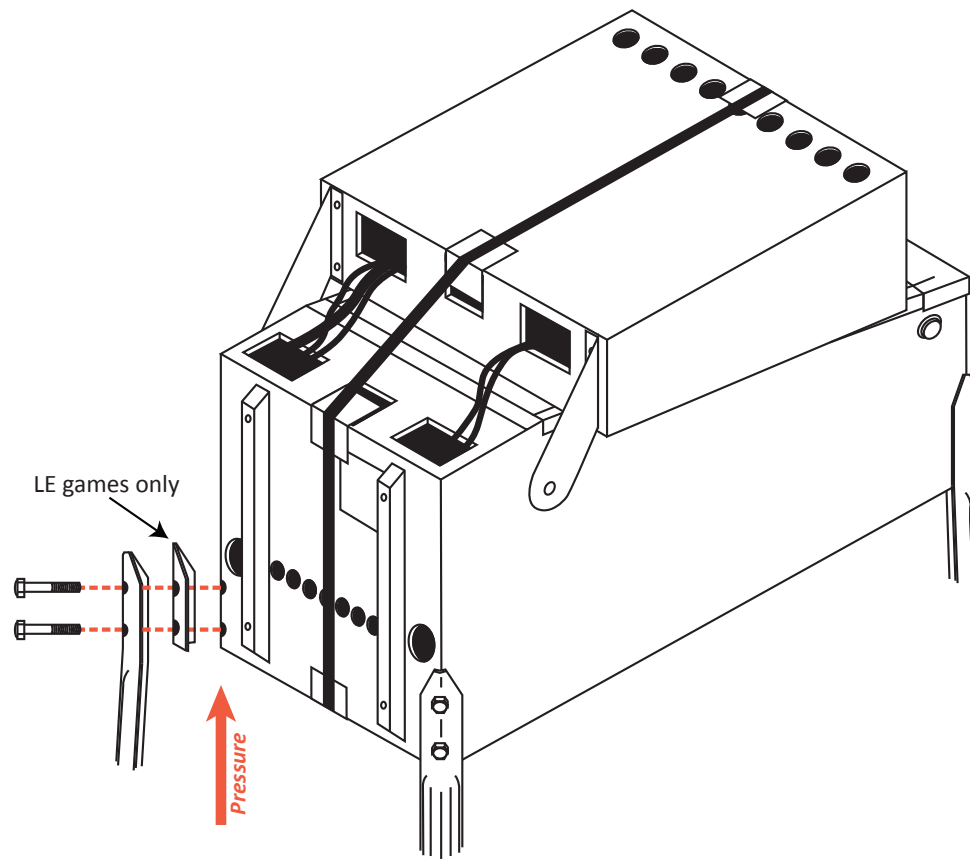


Figure A6. Installing the rear legs and cabinet protectors.

7) Using wire cutters, cut the nylon strap holding the backbox down (protect your eyes!). Remove the remainder of the packing material from the game and raise the backbox to its upright position (see figure A7). Ensure that the cables and wires in the neck of the game do not get pinched at any time during this process.

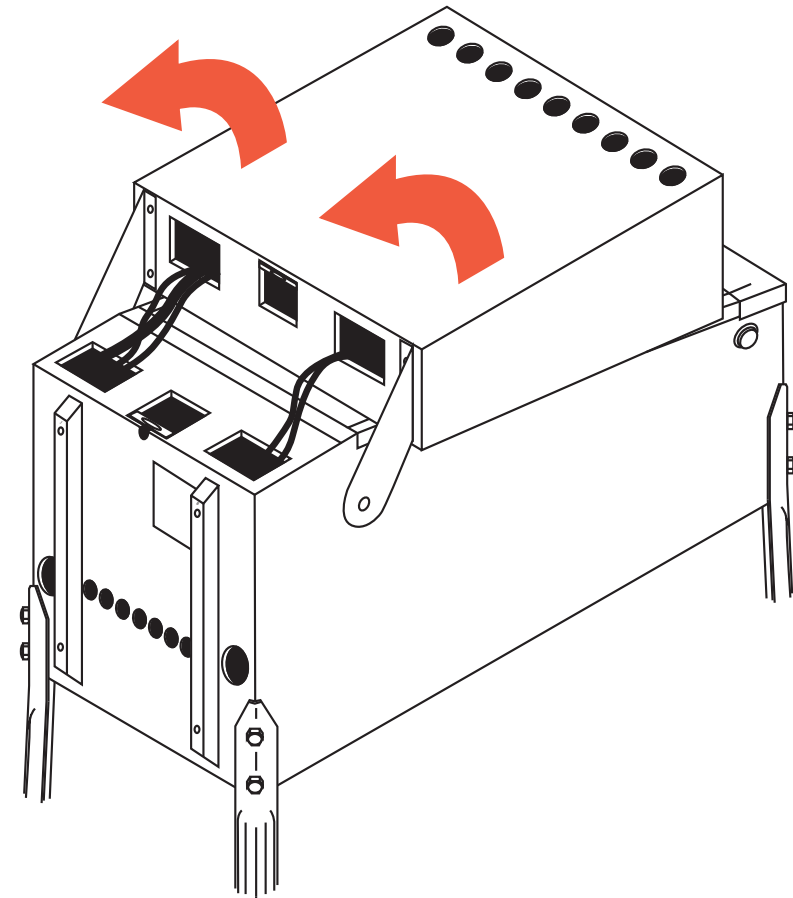


Figure A7. Raising the backbox to its upright position.

8) Locate the “L”-shaped, 5/16” hex key for the backbox Roto-Lock in the loose parts. Insert it into the hole at the base of the backbox and turn it a full 270 degrees CW (see figure A8).

Note: When the Roto-Lock is in the fully locked position, the key will not turn any further in the clockwise direction.

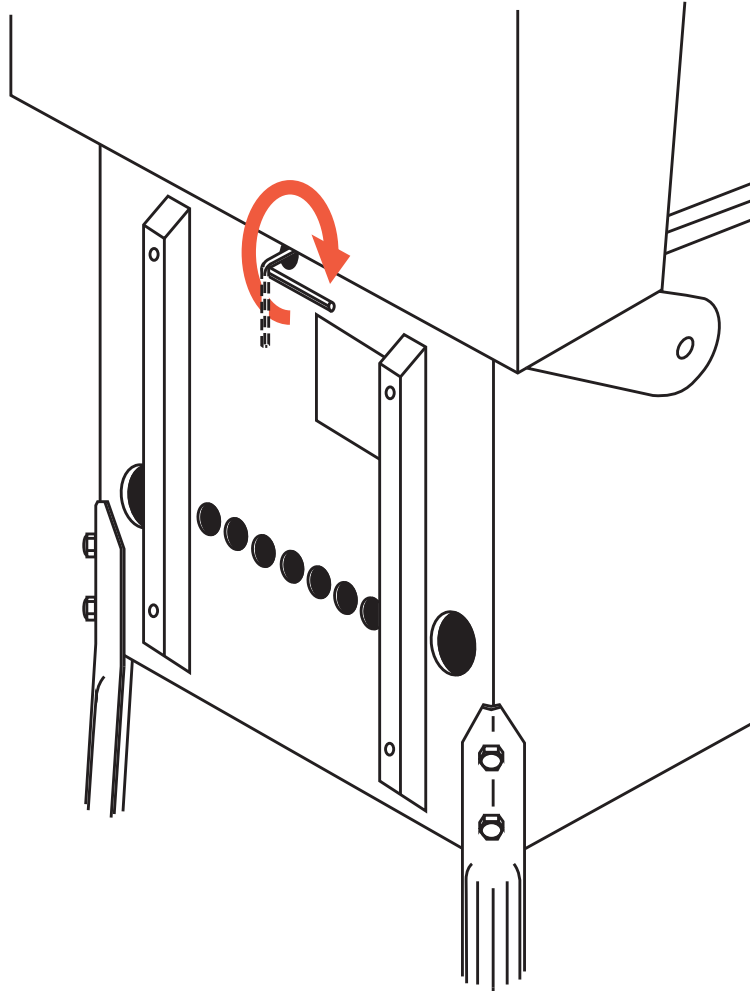


Figure A8. Locking the backbox in the upright position.

9) Locate the lasered topper plastic in the loose parts. Peel the protective covering off of the plastic’s surfaces. Using a #2 Phillips screwdriver, remove the four screws and back half of the topper bracket (the long, “L”-shaped piece), mounted to top of the backbox (see figure A9). Place the topper plastic between the two halves of the bracket, align all of the holes, and fasten all three pieces together with the four screws (as shown in figure A9, inset). When finished, the laser- etched side of the plastic should face the rear of the backbox; the smooth side should face forward.

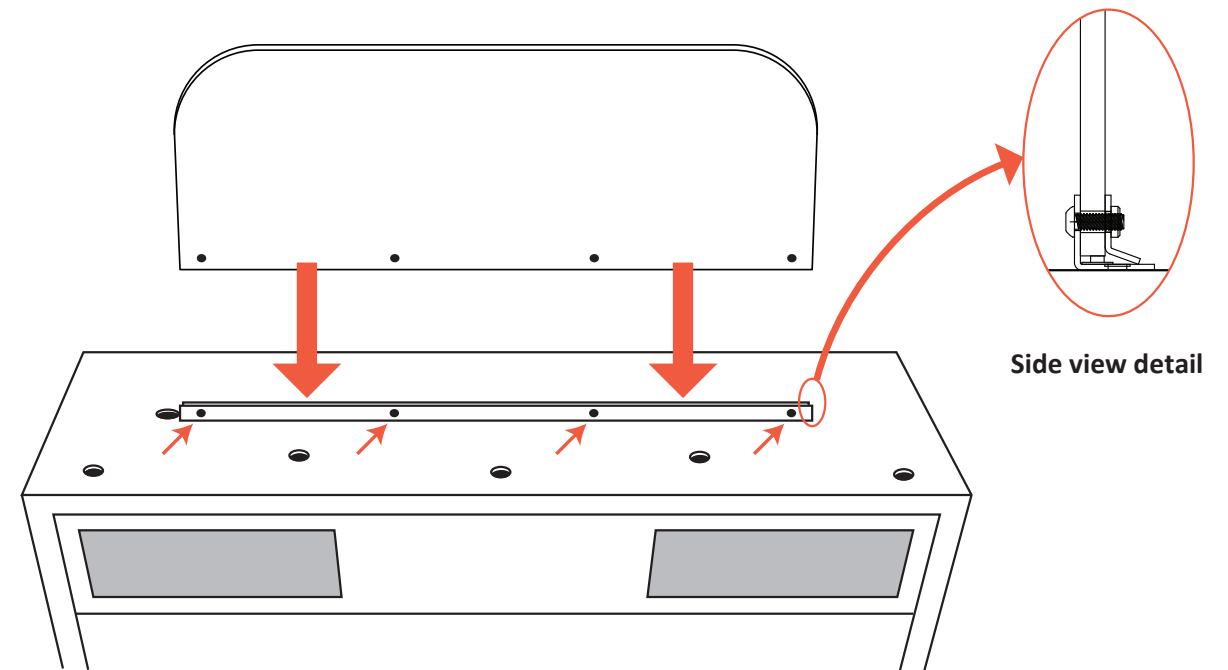


Figure A9. Installing the backbox topper plastic.

10) Using at least two people, lift the game and move it to the intended play area. **DO NOT SLIDE LEGS ACROSS THE FLOOR.**

11) You will find the coin door keys attached to the ball shooter, on the front of the game. Cut them loose with a pair of wire cutters. Remove the playfield glass: 1) open the coin door, 2) slide the yellow lockdown bar lever to the left, 3) lift the lockdown bar straight up and out, 4) **CLOSE AND LOCK THE COIN DOOR** (to prevent scratching of playfield glass), then 5) slide the playfield glass off of the front of the cabinet (see figure A10). Carefully set the glass aside.

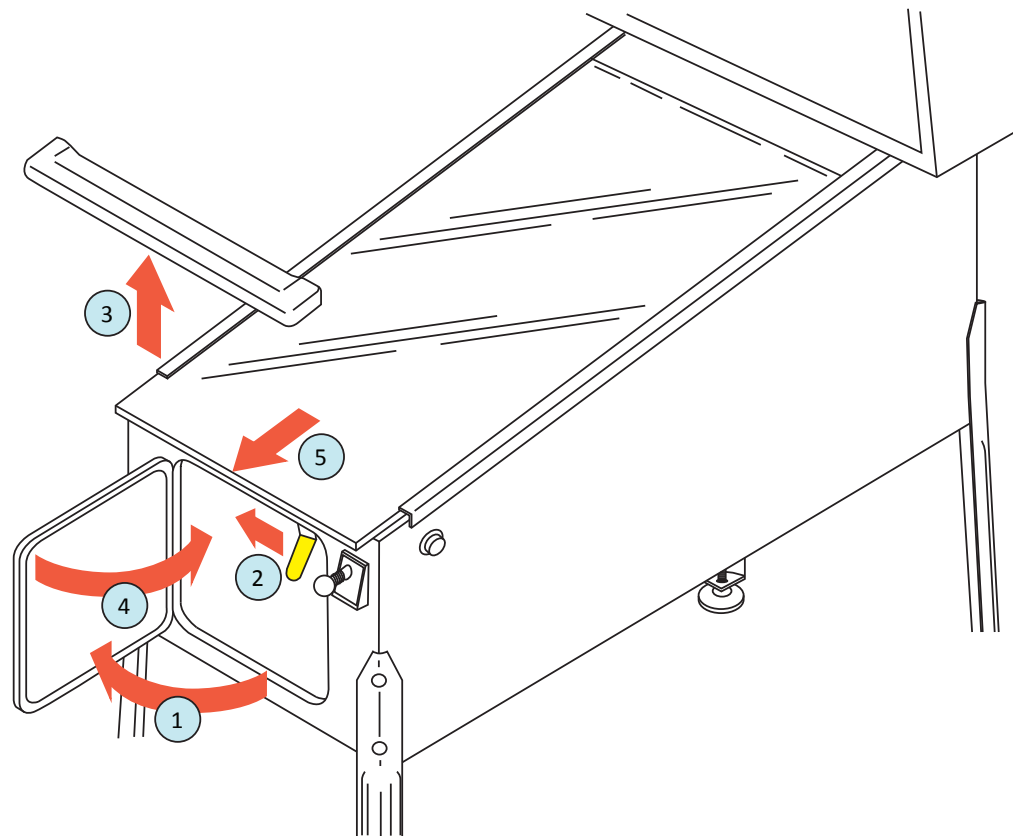


Figure A10. Removing the playfield glass.

12) Locate the game's five pinballs in the loose parts. Place all five balls in the ball trough (drop them onto the playfield, below the flippers, and allow them to drain). Level the game side-to-side by placing a bubble level on the playfield surface (top

and bottom) and adjusting the leg levelers and tightening nuts accordingly. When finished, secure the tightening nut against the underside of each leg.

13) Your Jersey Jack Pinball® playfield is designed to rest in four distinct positions in its cabinet for game play, cleaning and maintenance. Figure A11 shows the playfield in its standard position.

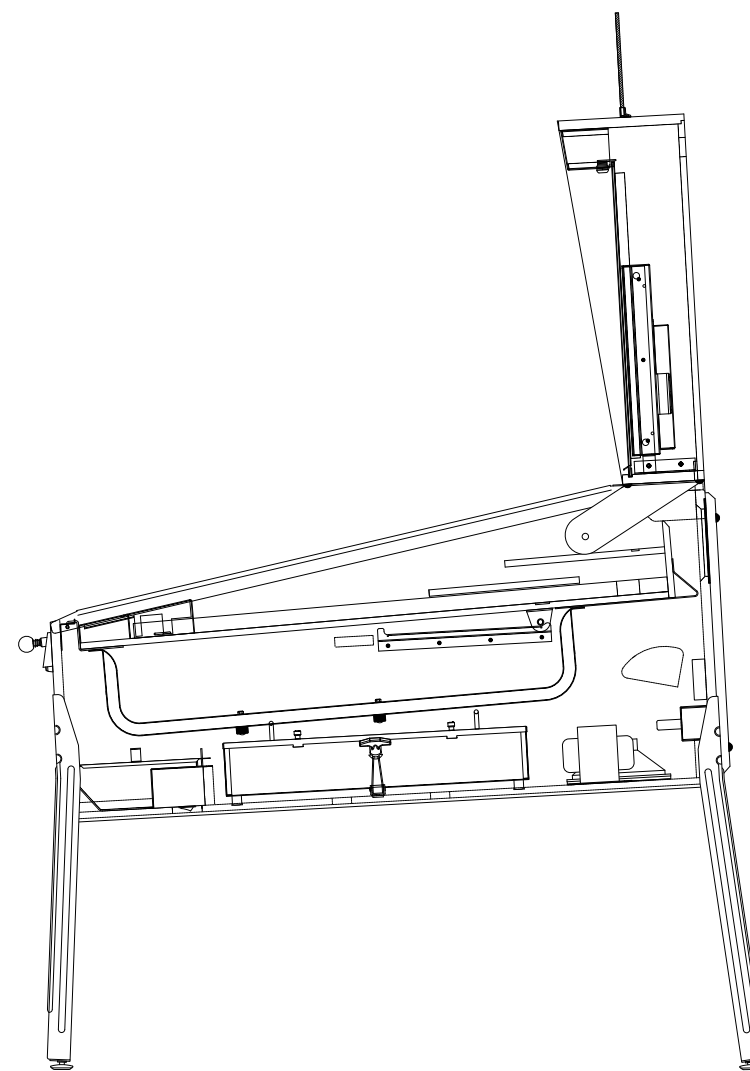


Figure A11. Playfield in the game play position.

14) Grasp the playfield under its bottom arch and swing it upward until the support rails underneath are fully visible (figure A12). Move the playfield to position 2 (figure A13). Pull it upward and outward until the first pair of rubber feet reach the top of the lockdown bar receiver; then lower the playfield, resting the rubber feet in the steel channel.

Note: The game has a safety mechanism to keep the balls in the trough from falling out when the playfield is lifted.

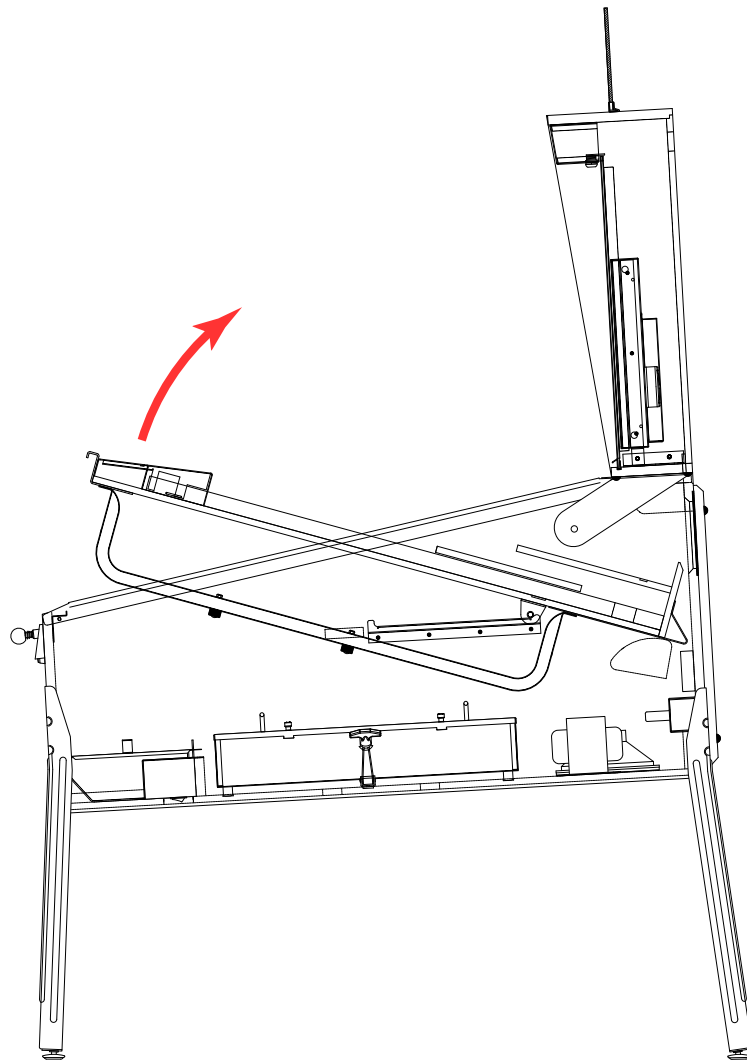


Figure A12. Swing the playfield upward.

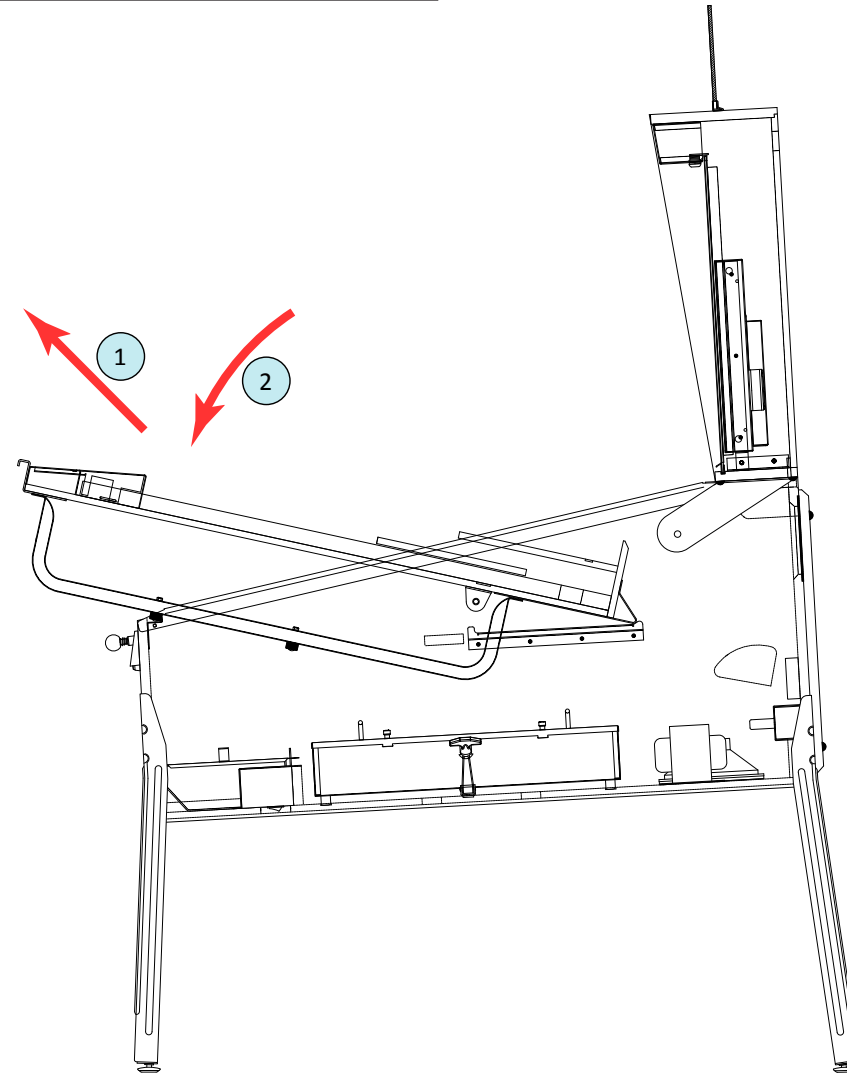


Figure A13. Moving the playfield to position 2.

15) Move the playfield from position 2 to 3 (figure A14). Pull it upward and outward until the second pair of rubber feet in the support rails reach the top of the lockdown bar receiver; again, lower the playfield, resting the feet in the channel.

16) Move the playfield from position 3 to 4 (figure A15). Pull it outward until the support/slide bracket stop is reached; then swing the playfield up, resting the bottom arch against the front of the backbox.

Note: As shown in figure A16, the playfield can be completely removed from the cabinet. Disconnect all connectors in the wiring harness and, with one person at the front of the playfield and one at the back, carefully lift it straight up and out of the cabinet. The playfield can then be placed on any flat surface, supported by its rails, for maintenance.

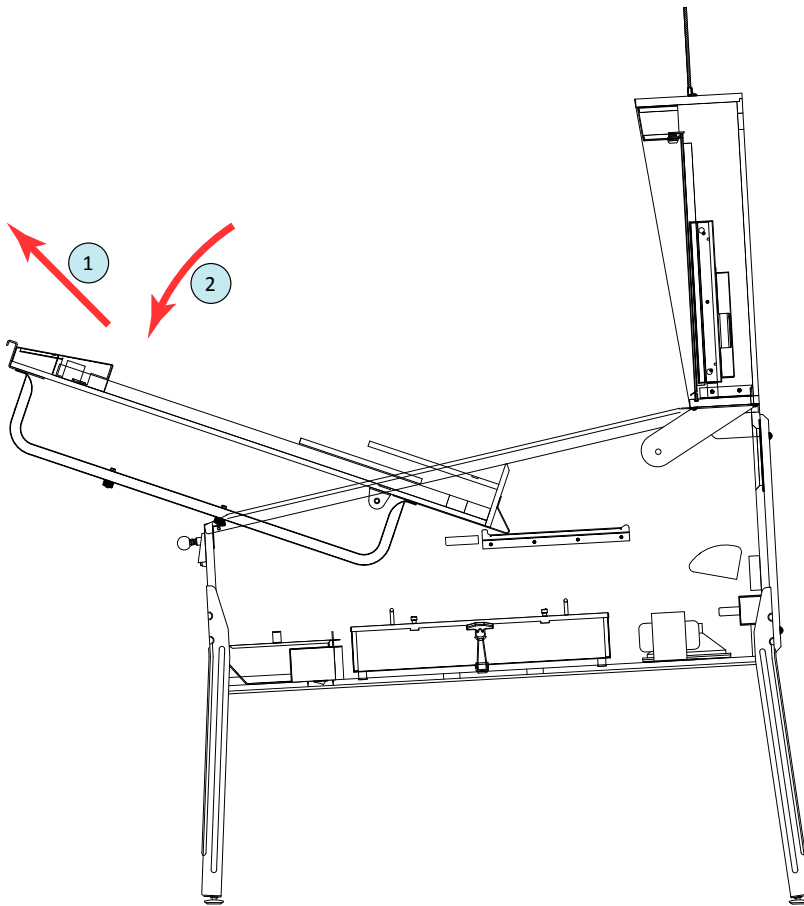


Figure A14. Moving the playfield to position 3.

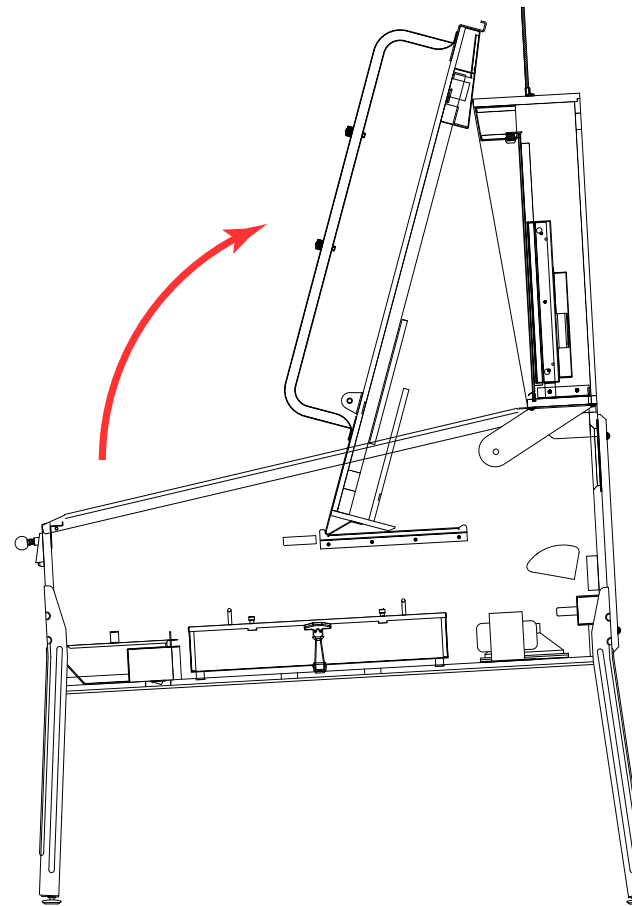


Figure A15. Moving the playfield to position 4.

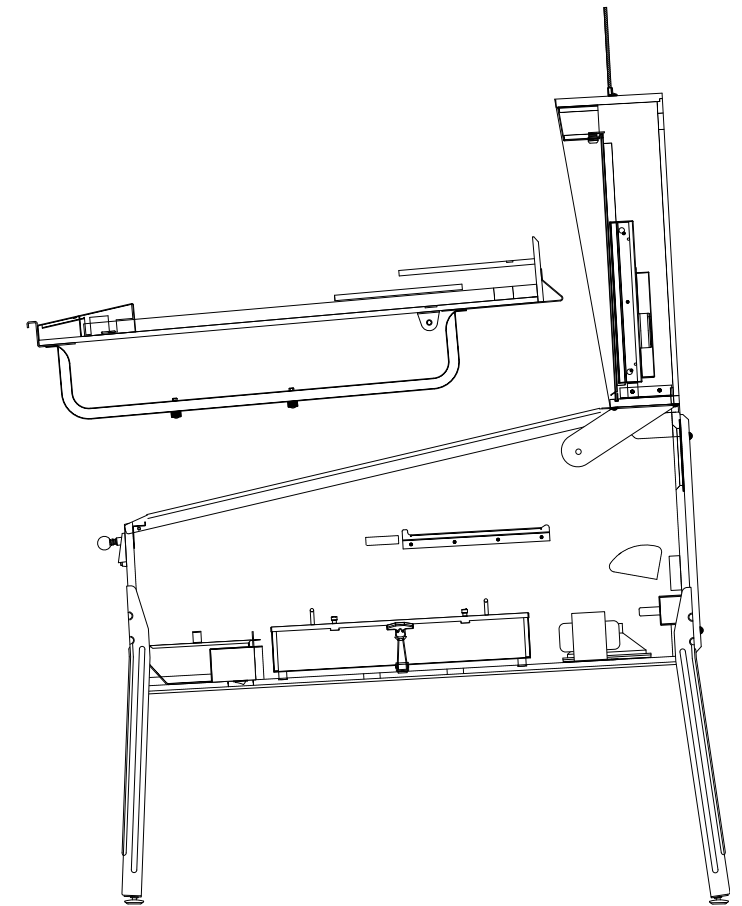


Figure A16. The playfield is removable.

17) Locate the plumb bob weight and nylon wing nut in the loose parts. Locate the plumb bob tilt hanger wire and contact brackets, mounted on the inside, left sidewall of the lower cabinet. Slide the weight onto the straight end of the hanger wire and thread the wing nut onto the shaft underneath it (figure A17). Raising the weight higher up the hanger wire (by tightening the wing nut underneath it) makes the tilt mechanism more sensitive; lowering the weight makes it less sensitive.

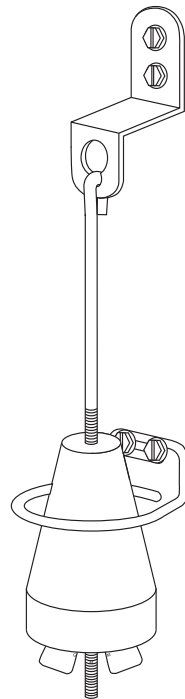


Figure A17. Assembled plumb bob tilt mechanism.

18) Locate the power cord in the loose parts. Remove the line cord cover plate from the rear of the lower cabinet. Plug the female end of the power cord into the exposed receptacle, inside of the back of the machine. Replace the line cord cover plate and plug the other end of the power cord into a grounded wall outlet. **DO NOT CUT THE GROUND LUG OFF OF THE POWER CORD!**

19) Power up the game (the on/off switch is located under the cabinet, just behind the right front leg; it rocks in one direction to turn the game on and in the reverse direction to turn it off) and test it for proper operation. Adjust game settings as appropriate (see Game Menu System, Section B). Reinstall the playfield glass (and lockdown bar) in the cabinet; your game is ready to play!

Note: Before transporting the game, lower the backbox (figure A18). Insert the 5/16" hex key into the hole at the base of the backbox and turn it a full 270 degrees CCW. Ensure that cables and wires in the neck of the machine do not get pinched or pulled taut as the backbox is laid down. Place a large piece of cardboard (or the piece of foam used when the game was shipped) between the top lip of the backbox and the lower cabinet to protect the side rails. Tie or strap the backbox securely to the cabinet to prevent it from bouncing during transit.

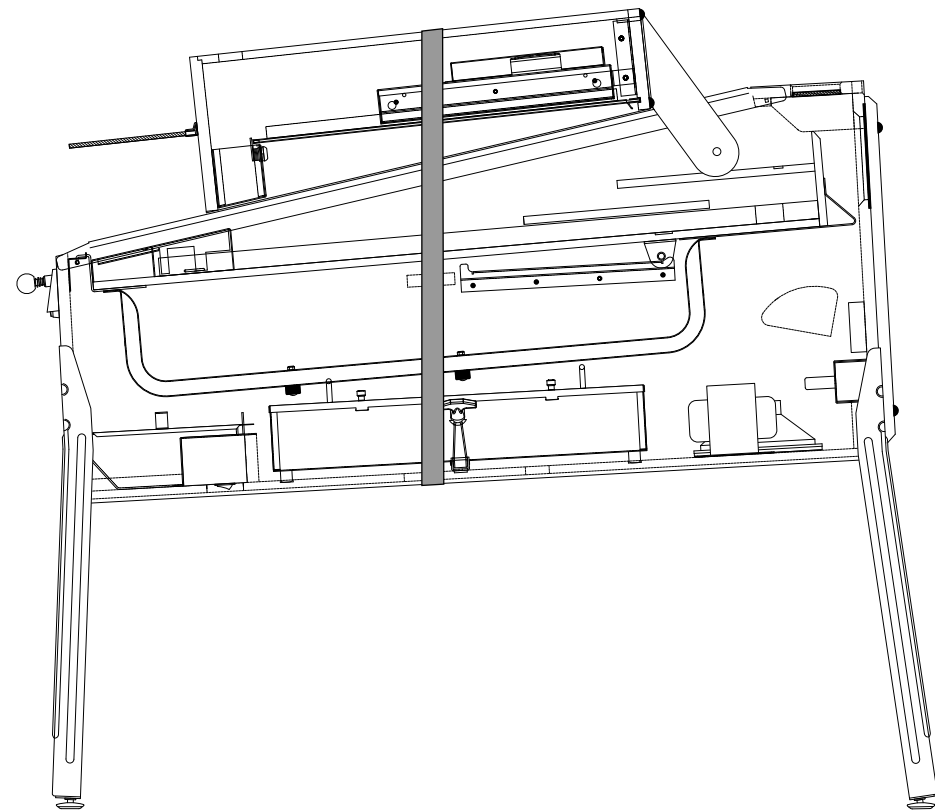
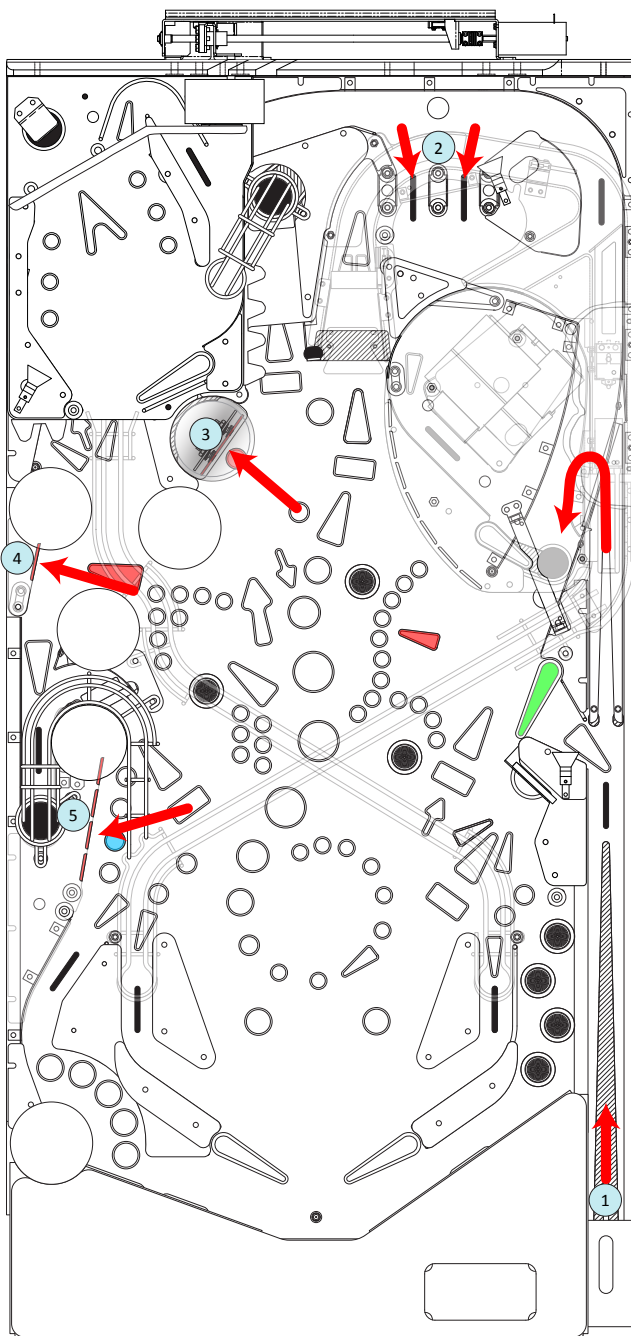


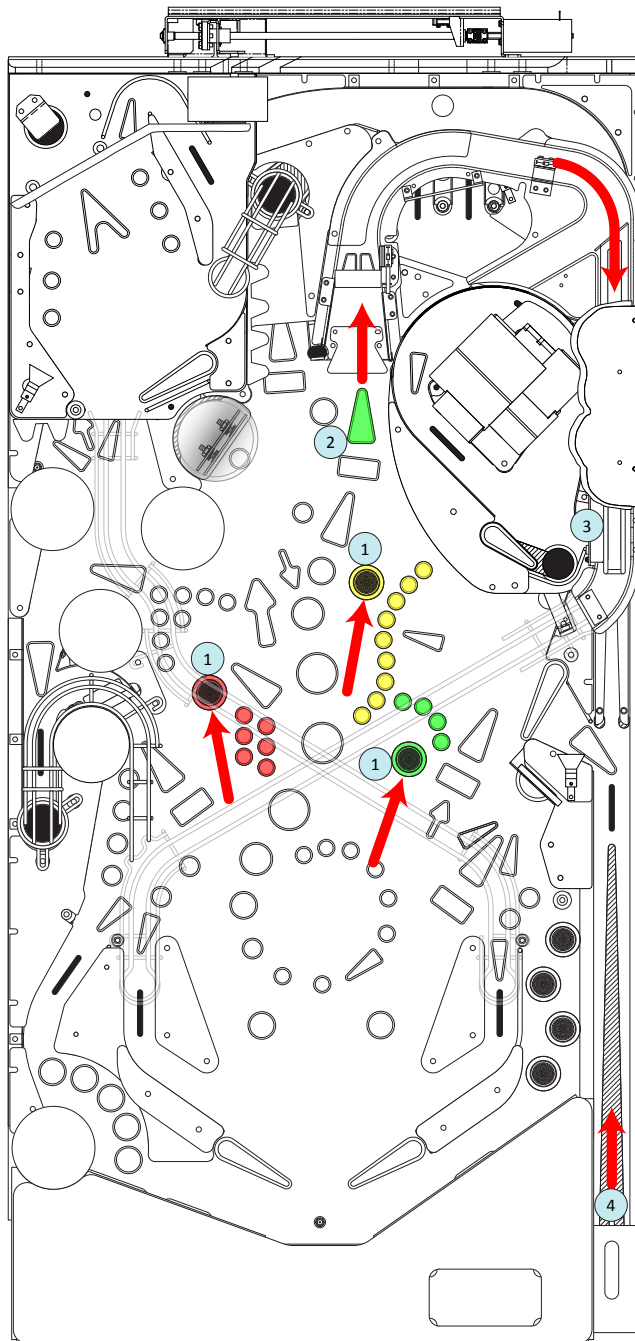
Figure A18. Transport game with the backbox lowered and secured.



A.2 WOZ Rules & Shot Maps

Skill Shots

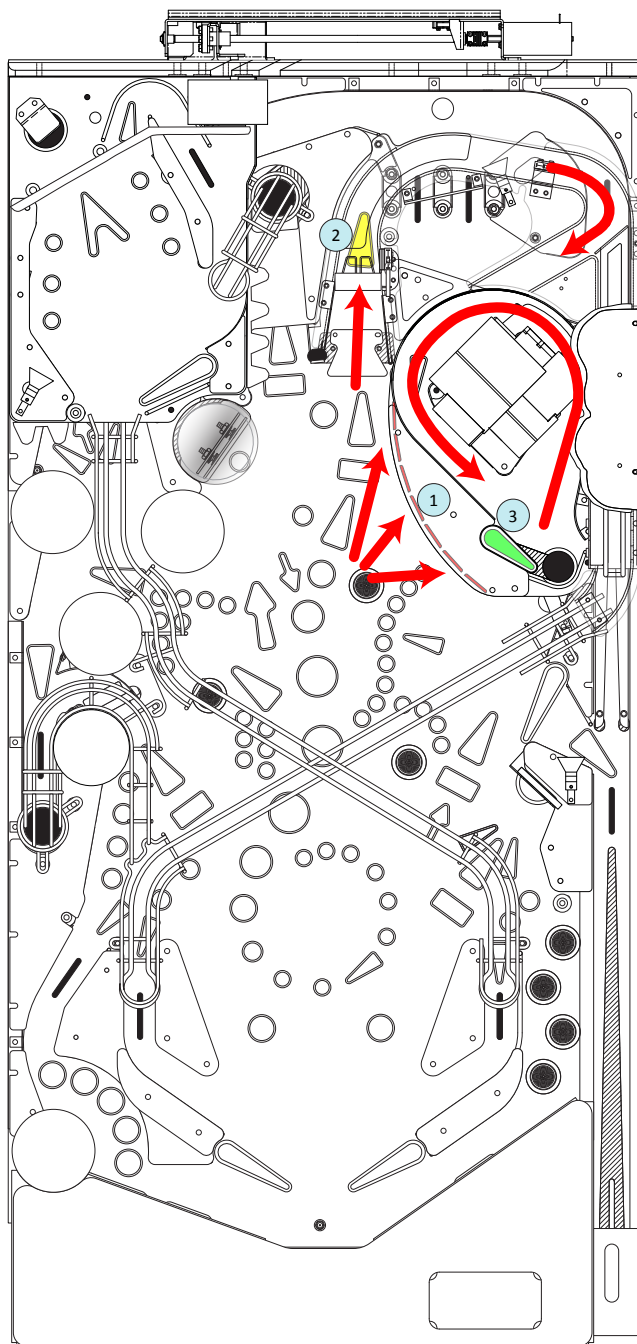
- 1) The strength with which you plunge the ball determines the **SKILL** shots available to you at the beginning of each ball. Hint: **SKILL** shot awards are not all necessarily equal!
- 2) Plunge the ball with medium strength to send the ball up into the **OZ** lanes at the top of the playfield. If the ball goes through the lit lane, a **SKILL** shot is awarded. Completing **OZ** lanes through nudging and use of the upper slingshot increases your bonus multiplier.
- 3) Plunge the ball lightly, so the ball barely drops onto the playfield to feed the upper, right flipper and attempt a more difficult **SKILL** shot. The first of these is the Witch skill shot, awarded for hitting a Witch target.
- 4) Again, plunge the ball lightly to provide an upper, right flipper shot. Hit the **SKILL** target, on the left side of the playfield, through the tree bumpers, for a nice **SKILL** shot award.
- 5) Before the ball is plunged, note that one of the **BALL** targets is lit. Plunge the ball lightly and use the upper, right flipper to hit the lit **BALL** target for a big **SKILL** shot award.



Emerald City Multiball

- 1) Shoot for the 3 character rollovers (**Scarecrow™**, **Cowardly Lion™** & **Tin Man™**) in the center of the main playfield. Hits will light letters toward spelling the corresponding character's name. Spelling progress is indicated through inserts next to the rollovers and in the upper, right quadrant of the LCD screen.
- 2) When a character's name is completely spelled, the **Lock** insert is lit green, cueing the player to shoot the ball up the Emerald City Ramp.
- 3) Any ball shot up the Emerald City Ramp when the **Lock** insert is lit will be locked above the Munchkinland playfield.
- 4) If less than 3 balls are locked, a new ball will be kicked into the shooter lane for continued play. If the 3rd ball is locked, Emerald City Multiball will begin.





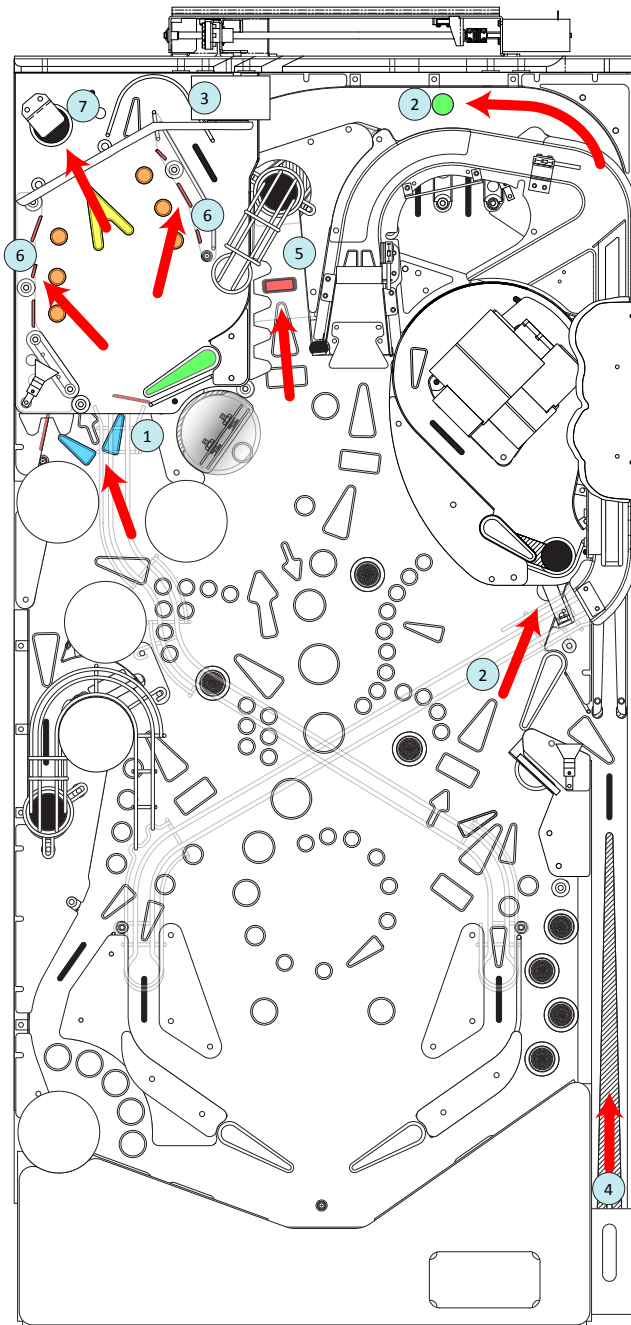
It's A Twister!/Spinning House/Munchkin Modes

1) Shoot the colored targets under the front edge of the Munchkinland playfield. Hits will light letters toward spelling **RAINBOW**. Spelling progress is indicated through lights under the **RAINBOW** plastic (above the targets) and in the lower, right quadrant of the LCD screen.

2) When **RAINBOW** is completely spelled, the *It's A Twister!* insert is lit yellow (and the lower, right quadrant of the LCD screen provides a message), cueing the player to shoot the ball up the Emerald City Ramp. Shooting the ramp will cause the ball to be diverted onto the Munchkinland playfield. Note: if both the **Lock** insert and the *It's A Twister!* insert are lit, the **Lock** function takes precedence.

3) Use the Munchkinland flipper to repeatedly send the ball around the spinning house. If the required number of shots around the house is completed, a Munchkin Mode will commence when the ball exits the Munchkinland playfield.



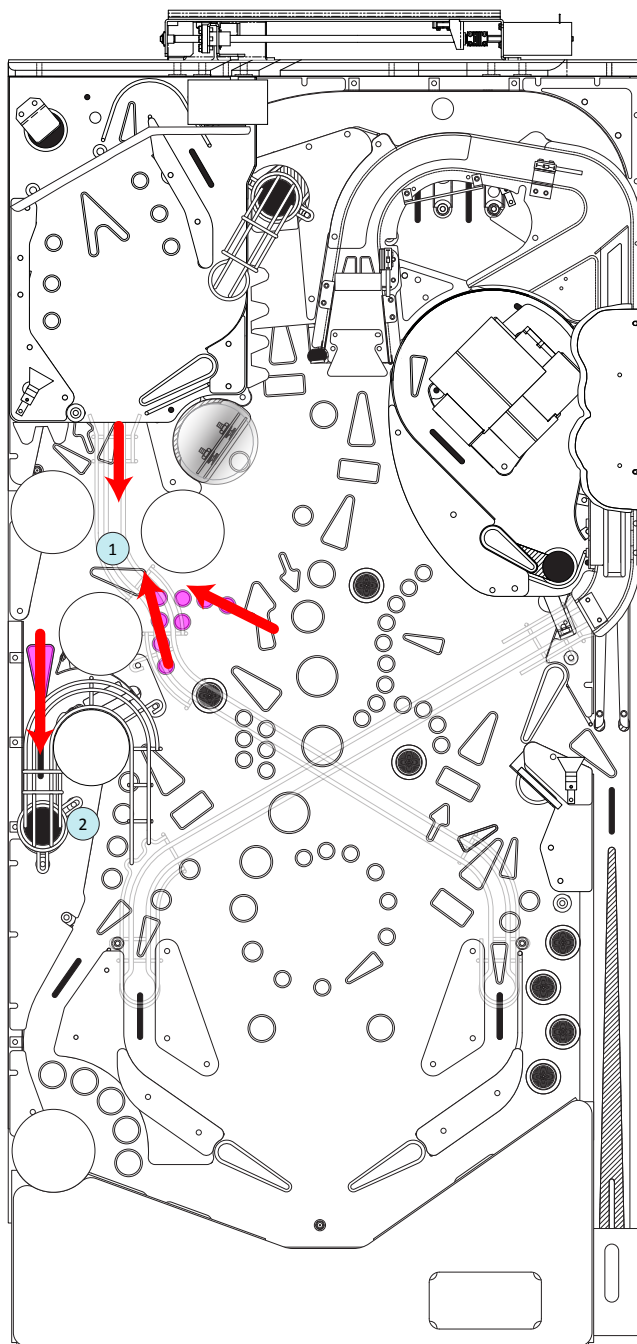


Winged Monkey™/Rescue Multiball

- 1)** Shoot the ball into the pop bumpers and use a little nudging to get the ball to hit the **Winged Monkey™** targets. The **Winged** and **Monkey** inserts will be lit in blue.
- 2)** When the **Winged Monkey™** targets have been hit enough times, the blue inserts go out. The yellow **Capture Dorothy™** insert on the back panel will then come on, cueing the player to shoot the ball up the right orbit, to be caught by the magnet at the top of the playfield.
- 3)** Next, the **Winged Monkey™** will descend from the castle and carry the ball up to the Castle playfield. It will be locked there, behind the single castle door.
- 4)** A new ball will be kicked into the shooter lane for continued play.

- 5)** Hit the drop target to knock down the **Winkie Guards™** guarding the castle (below, left). The upper, left quadrant of the LCD shows how many **Winkie Guards™** remain (each hit of the drop target knocks down one **Winkie Guard™**). When the last guard is down, shoot the ball behind the drop target to storm the castle!
- 6)** The ball will then be kicked up to the Castle playfield. Use the Castle flipper to hit the orange targets on either side of the Castle playfield and spell **RESCUE**. Progress is indicated through inserts in front of the targets and lit letters on the LCD screen (below, right).
- 7)** Lastly, pound the castle double doors 3 times (causing them to open) and shoot the ball inside to begin Rescue Multiball!



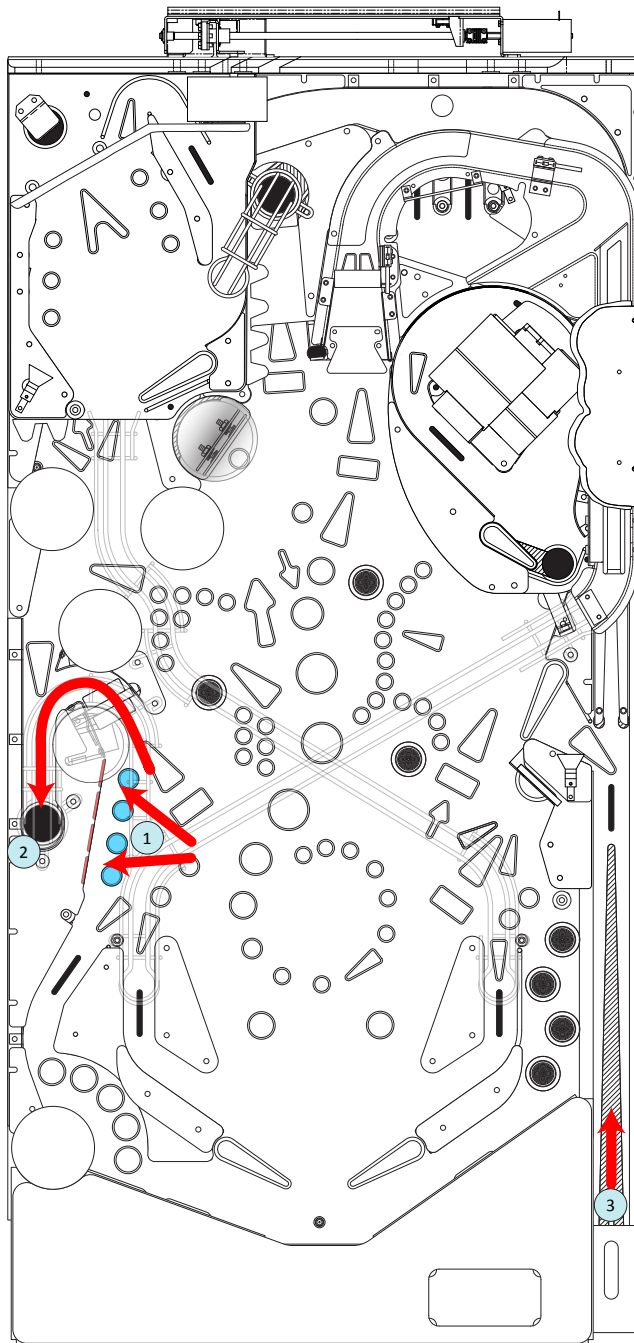


Haunted Forest Modes

1) Shoot the ball into the tree bumpers on the left side of the playfield. Tree bumper hits light letters toward spelling **HAUNTED**. Spelling progress is indicated through inserts to the right of the tree bumpers and in the lower, left quadrant of the LCD screen.

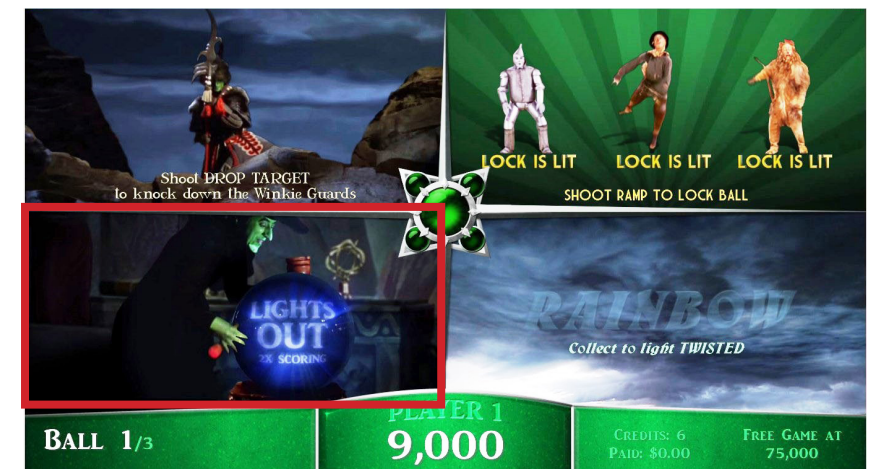
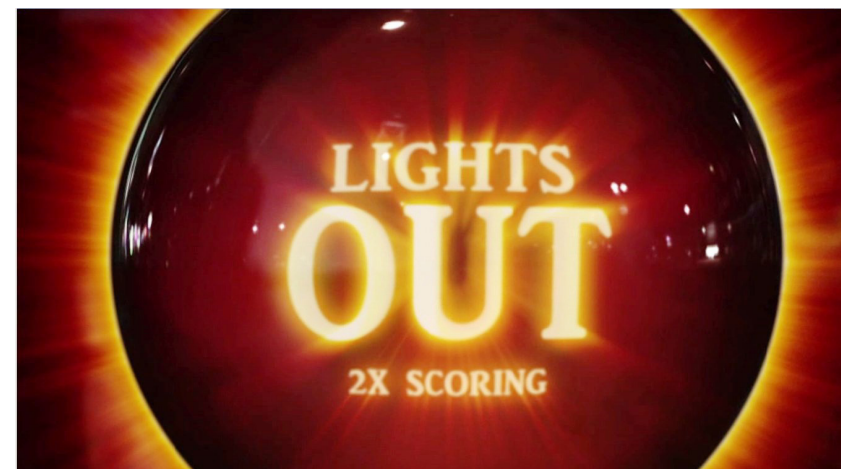
2) When **HAUNTED** is completely spelled, the **Collect** insert is lit pink (and the lower, left quadrant of the LCD screen provides a message), cueing the player to get the ball into the Crystal Ball VUK. When the ball falls into the VUK, a timed Haunted Forest Mode will begin, awarding bonus points for hitting specific shots on the playfield. Note: the ball *must* drop into the VUK through the tree bumpers to start the mode; a shot into the VUK through the spinner will not work!

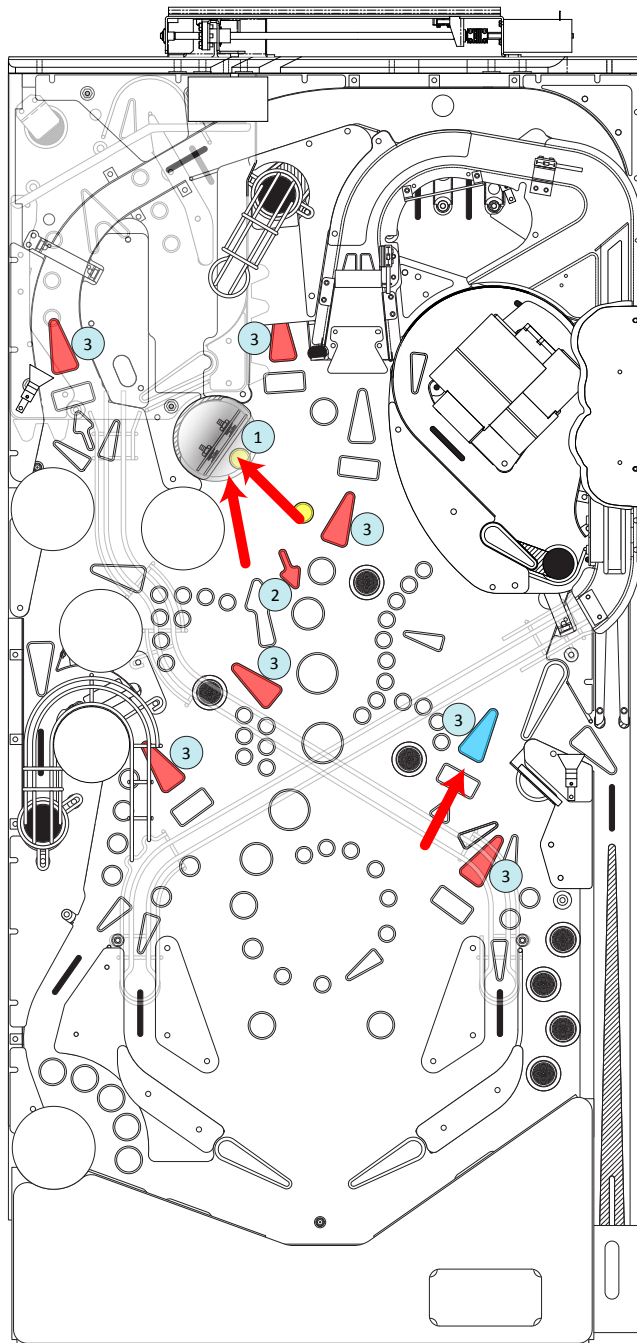




Crystal Ball Multiball Modes

- 1) Shoot the four blue targets on the left side playfield (below the Crystal Ball) to spell **BALL**. Spelling progress is indicated through inserts in front of the targets.
- 2) When **BALL** has been spelled, shoot the ball through the spinner, under the Crystal Ball, into the VUK. A random Crystal Ball Multiball Mode will begin - complete with a challenging twist (Lights ON, Lights OUT, etc.). Note: the ball *must* go through the spinner; a drop into the Crystal Ball VUK from the tree bumpers will not work!
- 3) A ball will be kicked into the shooter lane and Auto-Launched into play as the Crystal Ball VUK kicks out the captured ball, resulting in a 2-ball multiball. Special scoring multipliers during Crystal Ball Modes really raise the stakes!





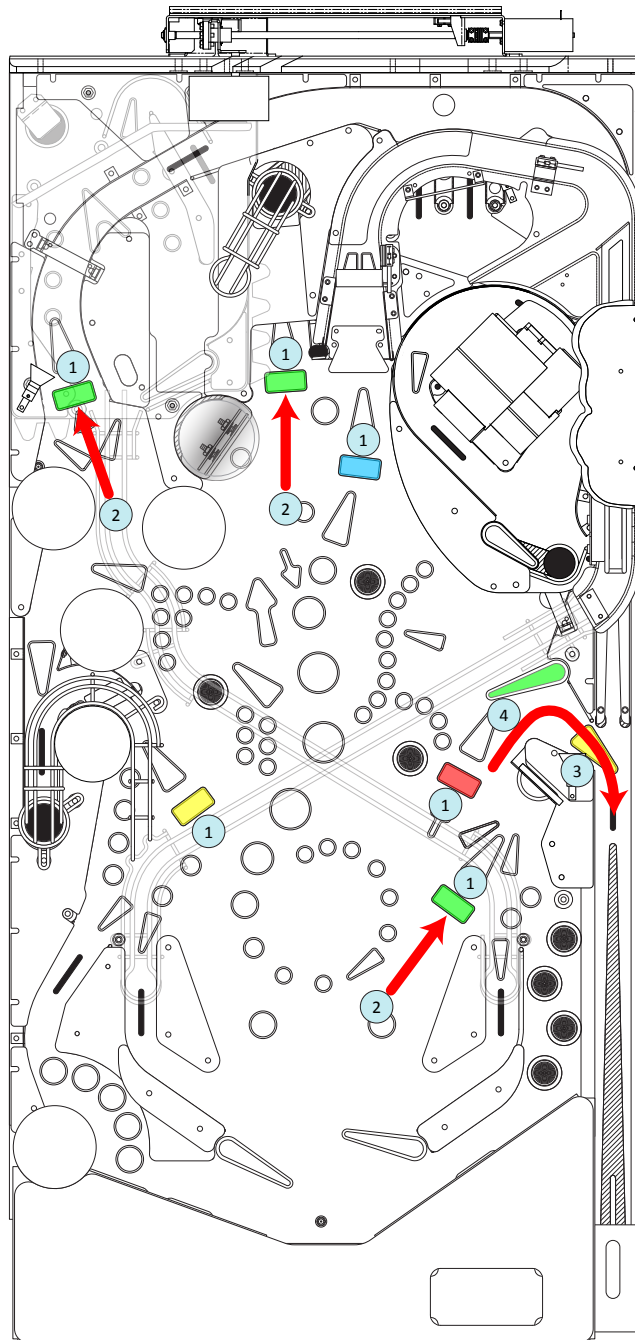
Wicked Witch™/Fireball Frenzy

1) Shoot the witch targets to begin, advance and complete witch hurry-ups (melt the witch). You will get feedback on your progress from the Wicked Witch™ in the center of the LCD screen (below, top) - along with plenty of verbal taunts!.

2) When you've completed several witch hurry-ups, the **FIRE-BALL** insert in front of the witch will flash red, cueing the player to hit the witch once more to begin Fireball Frenzy!

3) During Fireball Frenzy, one of the emerald arrows will flash blue; the others will flash red. Shoot the shot associated with the blue flashing emerald arrow for a Jackpot score. Avoid the shots associated with the red flashing emerald arrows; if you hit one, the Wicked Witch™ throws a fireball at the dancing Scarecrow™ on the LCD screen (below, right). When the Scarecrow™ has been hit by three fireballs, Fireball Frenzy ends. Note: the Jackpot (blue) shot will move around the playfield during Fireball Frenzy.

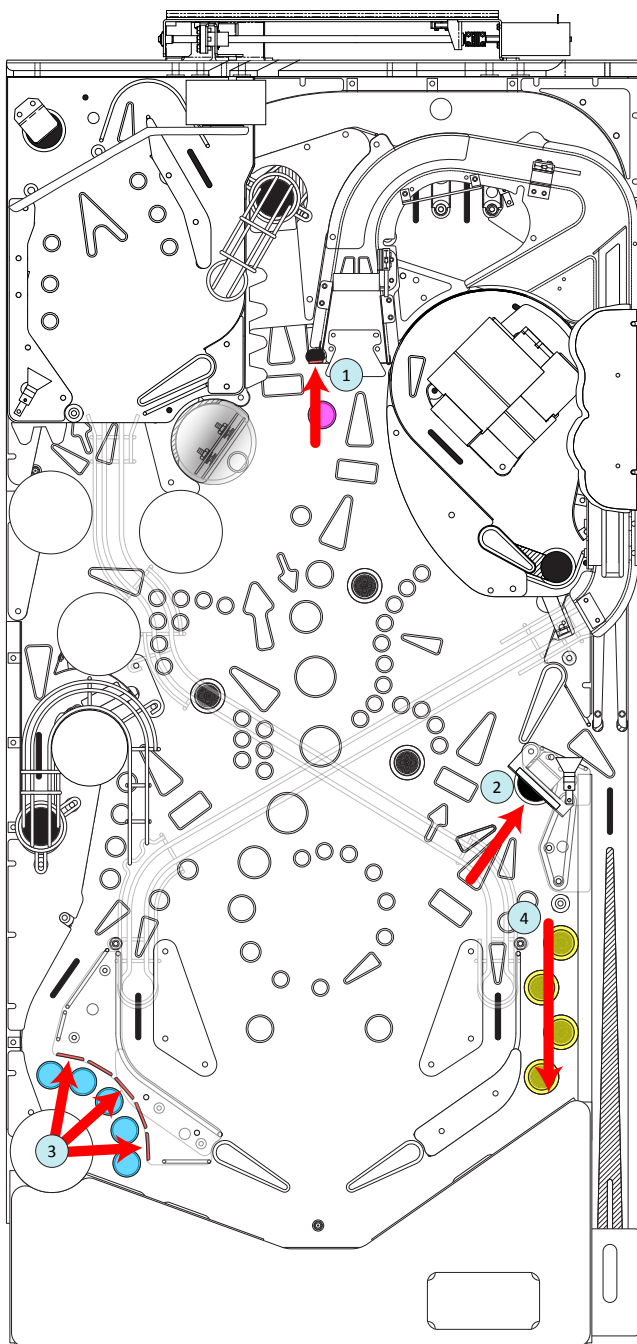




Horse Of A Different Color

- 1)** Throughout each game, the Horse Of A Different Color™ (HOADC) inserts around the playfield will randomly change color. Each time you make a HOADC shot, you add the associated color horse to your collection (shown as a “marching list” on the LCD screen).
- 2)** Shoot successive matching-colored horses to increase the value of your current list. Your list is of the “first in, first out” variety - and it grows from the left, shifting right. That is, as you complete HOADC shots, the list’s right-most horse will fall out as your latest shot assumes the new left-most position (horses in between each move one spot right).
- 3)** When your list is full, the HOADC **COLLECT** insert will light, cueing you to shoot the ball back into the shooter lane and collect your bonus score. However, you may choose to continue shooting HOADC shots, revising your list as you go.
- 4)** When you have a color-matched list (or some other interesting combination) of horses, hold the right flipper button in and shoot the ball behind the upper, right flipper (back into the shooter lane) to see how much bonus you’ve earned. Then start the entire process over again and try to outdo yourself!





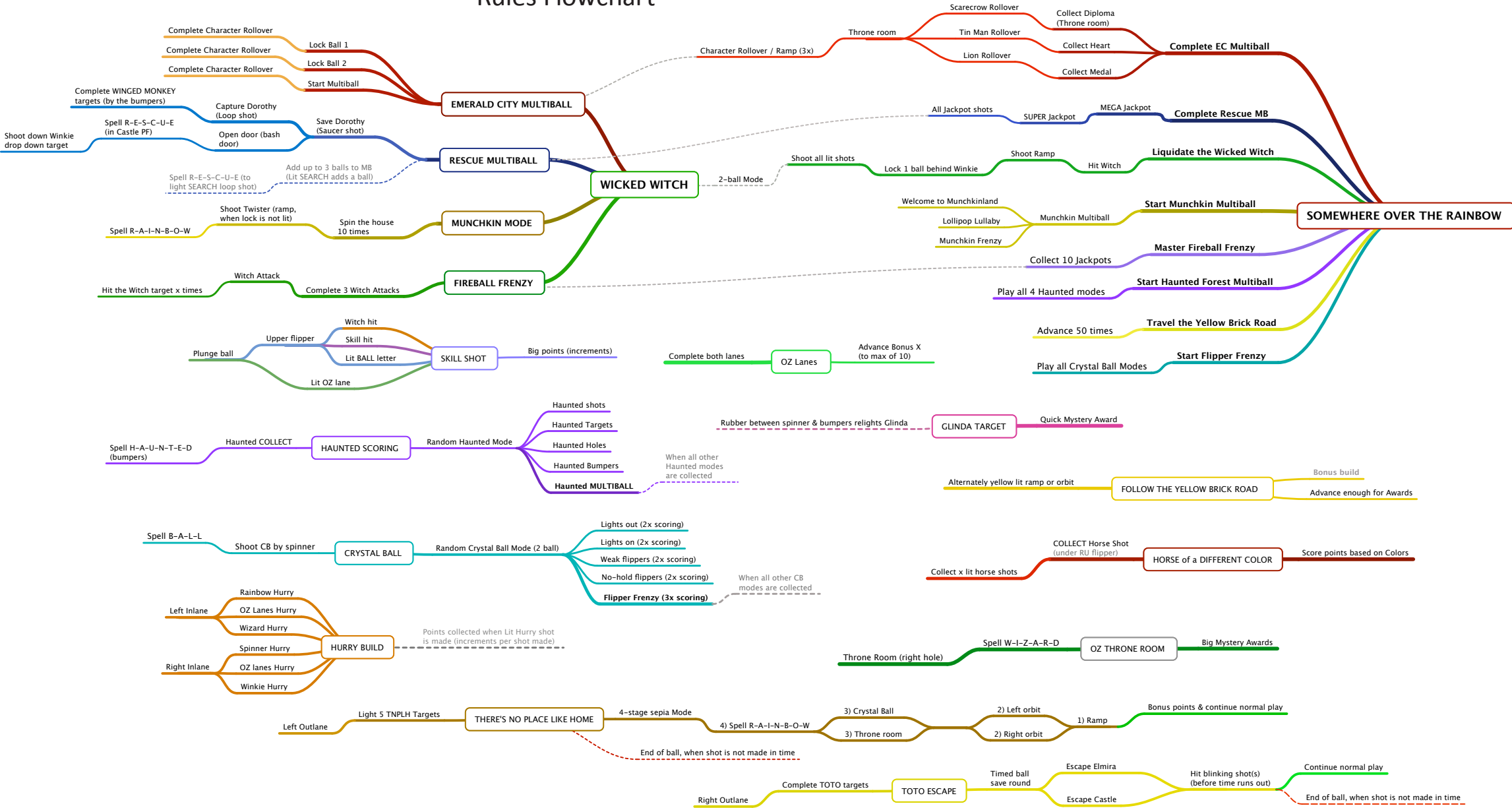
Extras!

- 1) During your game, hit the pink Glinda™ target (next to the entrance of the Emerald City Ramp), when lit, for timely, helpful, “magical” awards.
- 2) Shoot the ball into the Throne Room VUK on the right side of the playfield. Hits light letters toward spelling **WIZARD**. Spelling progress is indicated on the LCD screen. When **WIZARD** is completely spelled, the player will receive a cool reward.
- 3) When your ball goes out the left drain, practice your nudging skills to help the State Fair Balloon Bumper light all five **THERE'S NO PLACE LIKE HOME™** targets. When all are lit, a four-stage, timed, **THERE'S NO PLACE LIKE HOME™** mode will begin (below). A new ball will be kicked into the shooter lane, then Auto-Launched into play. Shoot the lit targets/shots (before draining or running out of time) to complete all stages and save your ball!
- 4) When your ball goes out the right drain, try to nudge the game so that all four **TOTO™** targets are rolled over (and subsequently, lit). When all four rollovers are lit, the timed **Toto Escapes** mode will begin. A new ball will be kicked into the shooter lane, then Auto-Launched into play (as a timer begins). Shoot the lit shot(s) before the timer runs out to save Toto - and your ball!



The Wizard of Oz

Rules Flowchart





Section B

The WOZ Menu System



B.1 Menu System Basics

The WOZ menu system allows the user or operator of the game to test the performance of its components and assemblies; personalize its rules; and track, monitor, or manage its play and/or earnings. Four pushbuttons are used to navigate the menu system, make adjustments, enter data, check components, trigger tests, etc. The buttons are located on the inside of the coin door, mounted to a bracket nearest its outside edge (circled in figure B1).

The buttons are labeled: black is **Enter**, red next to it is **Up/+** , next red is **Down/-** and green is **Back/Escape**. Each time you press a button, you will hear an audio response through the game’s speakers. Use **Enter** to enter a sub-menu, select a menu item to change, or execute a command. Use **Up/+** or **Down/-** to maneuver through menu choices or increase/decrease data values for a selected menu item. Use **Back/Escape** to exit a sub-menu or escape from a selected menu item without saving changes. Each sub-menu screen contains specific instructions for button use and/or visual cues superimposed over the button illustrations in the lower left corner of the LCD screen.

To enter the menu system at any time (after system boot-up), open the coin door and momentarily press **Enter**. The main menu screen will instantly appear on the game’s LCD monitor (figure B2). The current date and time will be displayed in the lower right hand corner of the screen, along with the version of software the game is running. The entire string of RGB LEDs in the game will light up in white to improve visibility above and below the playfield.

From the main menu screen, you can access device/component tests, game settings, audits, utilities, presets, reports, and resets. Simply move up/down in the list of menu icons, using **Up/+** and **Down/-**, then press **Enter** to select the sub-menu you’d like to access. To exit the menu system and return to game play, press **Back/Escape**, and close the coin door. Specific details for each main menu item are included later in this section.

Note: When the coin door is opened, the game’s safety interlock switch (the upper switch on item 14, page C-2 of this manual) disables the 70-volt power running to the playfield. In order to activate 70-volt devices in any of the diagnostics tests, you must either close the coin door or pull the safety interlock switch’s actuator out (it will “click” and lock in place). When you close the coin door, the interlock switch actuator will be pushed back into its normal (unlocked) position. **CAUTION:** With the coin door closed or interlock switch’s actuator locked in place, most of the high power coils will be enabled, so slingshots, pop bumpers, VUKs, and flippers (if activated by the flipper buttons) will kick a ball around as it rolls down the playfield - or fire when trigger switches are closed by any means. **So please be careful with your fingers and tools on the playfield surface! If you lift the playfield for any reason, please be careful around high power coil lugs, as they present a shock hazard!**

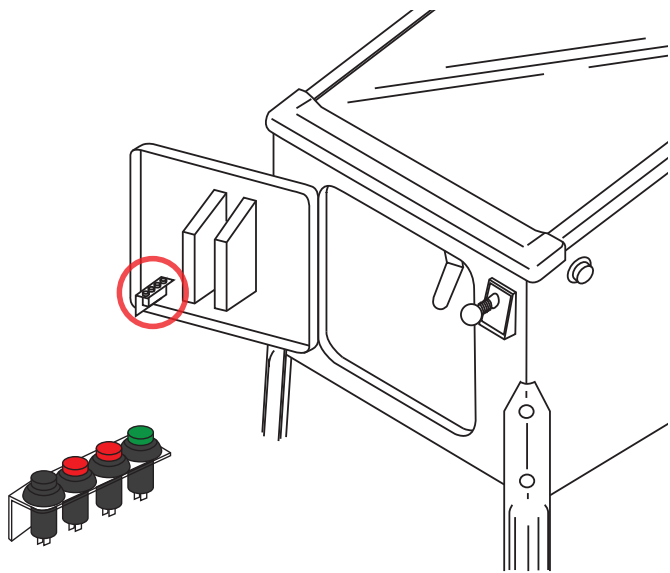


Figure B1. Menu system navigation buttons.



Figure B2. WOZ menu system’s main menu screen.

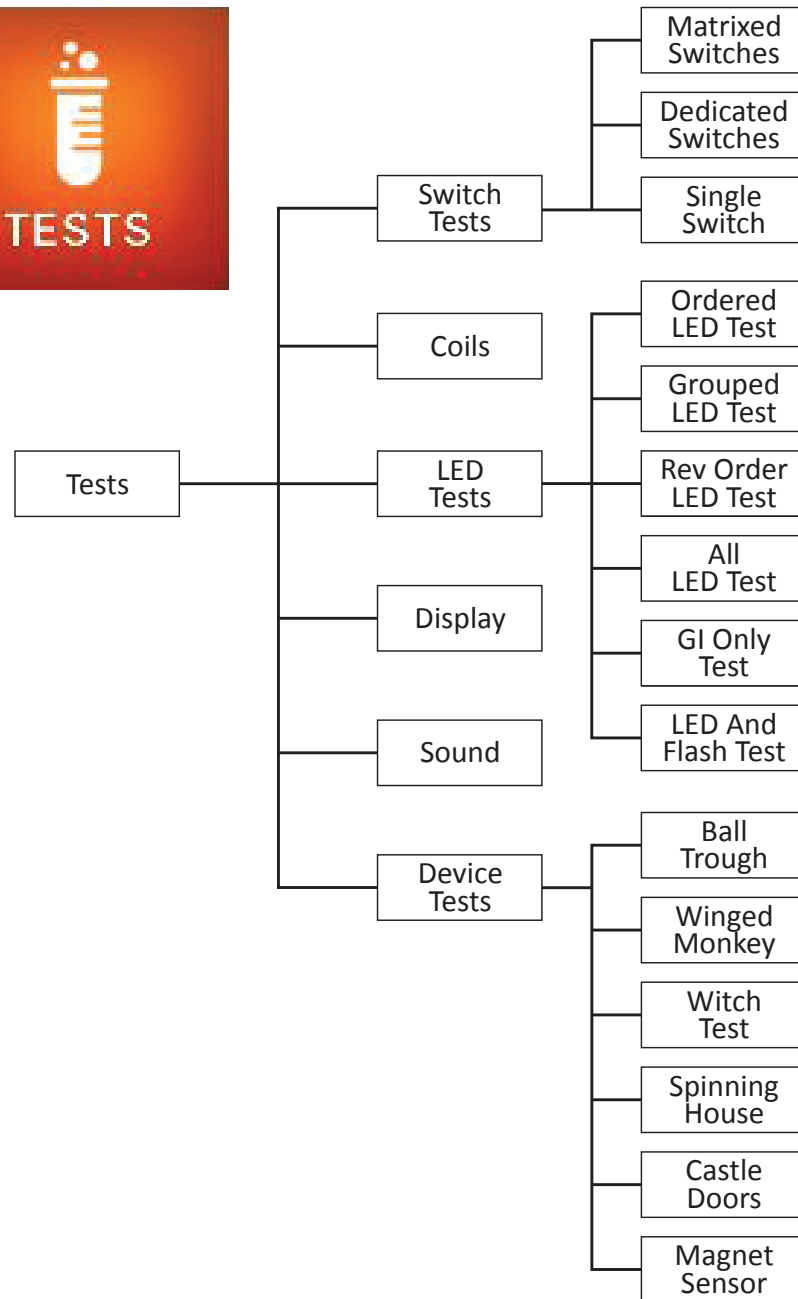
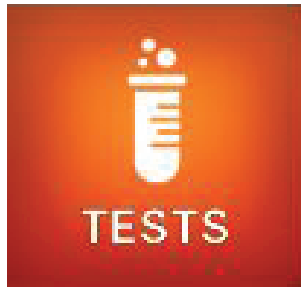


Figure B3. Tests menu tree.

B.2 Tests

The **Tests** menu (see figure B3 for an outline) allows the user to test all major components and assemblies in the game for proper operation.

Switch Tests - test all matrixed or dedicated switches in the game. A screen will be displayed for the selected group (**Matrixed Switches** or **Dedicated Switches**) showing the status of every switch within the group. As you manually open or close switches, the status for each is updated on the screen and you hear an audio response through the game's speakers. In **Single Switch** test, you can scroll through the entire list of switches and repeatedly open or close any single switch.

Coils - test virtually any coil, magnet, motor, or light in the game. A screen will be displayed, listing all of the coils, magnets, motors, and lights in the game that can be energized. You can auto-cycle through the list one at a time, or repeatedly/manually trigger a single device. For example, you can test the witch magnets by triggering them in the **Coils** test while holding a ball near them on the playfield surface.

LED Tests - test the RGB LEDs in the game (feature and GI lighting). **Ordered LED Test** - you can step through the list of RGB LEDs, one at a time, in functional order, and test the color-producing capability of each. **Grouped LED Test** - you can step through the list of RGB LEDs, one at a time, in grouped order, and test the color-producing capability of each. **Rev Order LED Test** - basically the same as the **Ordered LED Test**, except the LEDs are listed in reverse hardware order. **All LED Test** - all LEDs will light at once, allowing you to test the color-producing capability of the entire string at one time. **GI Only Test** - allows you to test the color-producing capability of RGB LEDs used for GI purposes. **LED And Flash Test** - allows you to test the functionality of all CPU-controlled lighting in the game at one time.

Display - test the basic colors and alignment of images on the game's LCD monitor. You can step through several fundamental colors on the screen and superimpose a grid on it to check for proper centering and alignment of displayed images.

Sound - test the game's sound system for proper balance and operation with sound effects, voices, music and a wide variety of tones and sweeps.

Device Tests - test all of the major game devices/assemblies (**Ball Trough**, **Winged Monkey**, **Witch**, **Spinning House**, **Castle Doors**, & **Magnet Sensor**) for proper operation. A specific screen will be displayed for each device, allowing the user to repeatedly exercise it and ensure that it is functioning correctly.



Matrixed Switch Test

When you enter the **Matrixed Switch Test**, the LCD monitor will display the screen shown in figure B4. A window highlighting locations/states of switches on the game’s playfield (at right in figure B4) can be toggled on and off by pressing the **Start** button on the front of the cabinet. The playfield window can be moved to the center or right side of the screen by using the **Up/+** or **Down/-** buttons. Each square in the playfield window corresponds to a matrixed switch. The color of the square (in both the playfield window and the matrix itself) represents the current state of that switch.

Active switches, regardless of their type, are displayed in bright green squares. Inactive opto switches are displayed in light tan (if normally unblocked) or dark tan (if normally blocked) squares; all other inactive switches are displayed in bright blue (if normally open) or navy blue (if normally closed) squares. Bad switches (switches that have been inactive for approximately 60 balls played) are displayed in red squares. Unused positions in the matrix are represented by gray squares; any unused position that is registering active (an error) is represented by a brown square.

The driver (column) and return (row) numbers for each switch, along with corresponding wire colors and I/O Board connector/pin numbers, are shown at the top and left side of the screen, respectively.

You can (manually) simultaneously test as many switches as you like, or repeatedly test a single switch, observing the results in the matrix and/or the playfield window. The game also provides an audible response each time the state of a switch changes. Note: When adjusting a switch, the best method for testing it is to roll a pinball over it, through it or into it.

To exit the **Matrixed Switch Test** at any time, press the **Back/Escape** button.

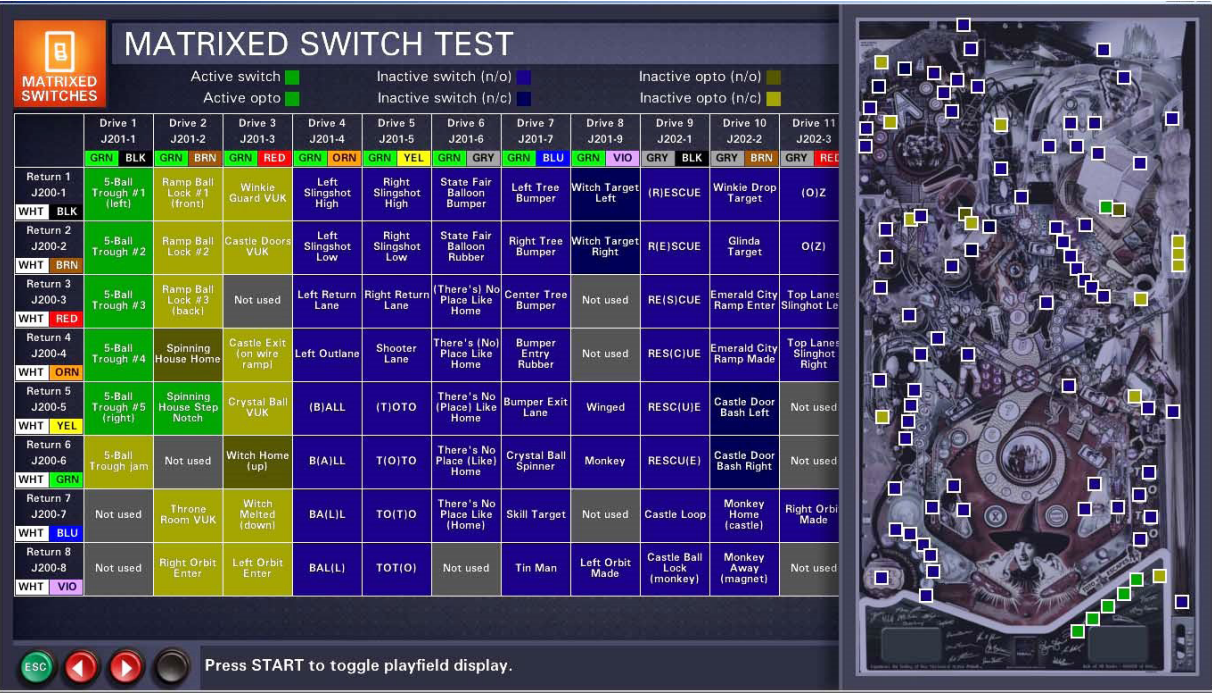


Figure B4. Matrixed Switch Test screen.



Dedicated Switch Test

When you enter the **Dedicated Switch Test**, the LCD monitor will display the screen shown in figure B5. The four dedicated switch strings are shown, grouped by their common ground wire. Each square in each string corresponds to a specific switch; the color of the square represents the current state of that switch.

Active switches, regardless of their type, are displayed in bright green squares. Inactive opto switches are displayed in light tan (if normally unblocked) or dark tan (if normally blocked) squares; all other inactive switches are displayed in bright blue (if normally open) or navy blue (if normally closed) squares. Bad switches (switches that have been inactive for approximately 60 balls played) are displayed in red squares. Unused positions in the matrix are represented by gray squares; any unused position that is registering as active (an error) is represented by a brown square.

Wire colors and I/O Board connector/pin numbers are shown for each string of switches.

You can (manually) simultaneously test as many switches as you like, or repeatedly test a single switch, observing the results on the screen. The game also provides an audible response each time the state of a switch changes.

To exit the **Dedicated Switch Test** at any time, press the **Back/Escape** button.

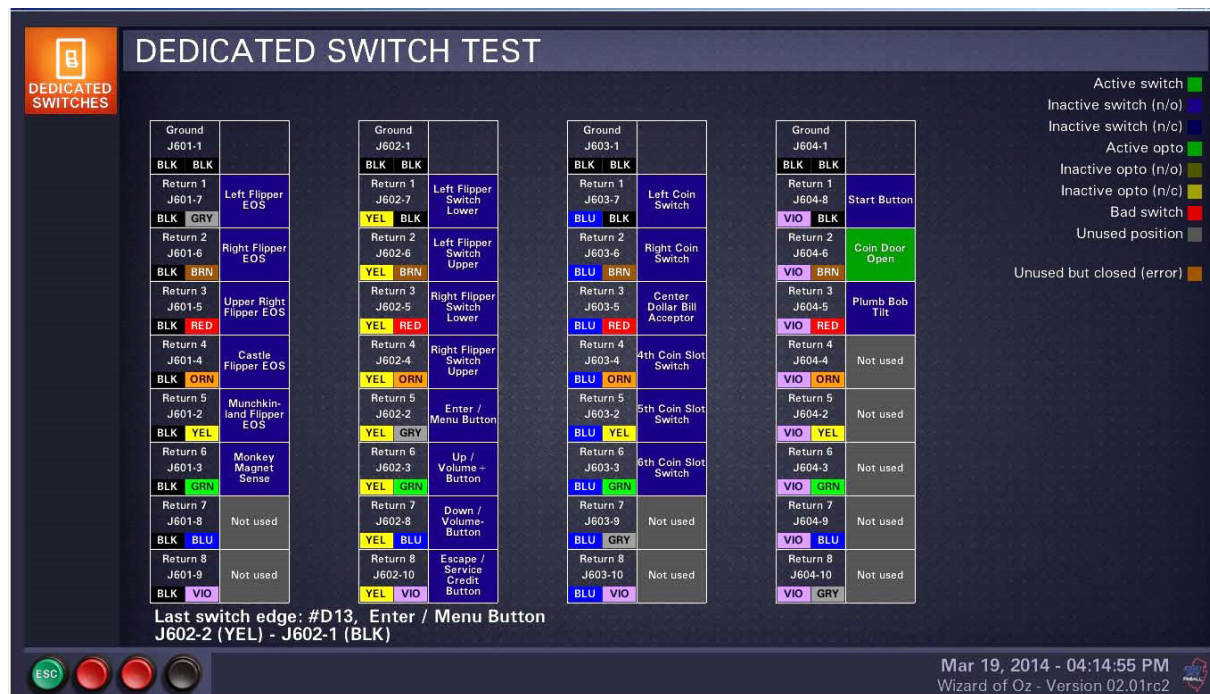


Figure B5. Dedicated Switch Test screen.



Single Switch Test

When you enter the **Single Switch Test**, the LCD monitor will display the screen shown in figure B6. The entire list of matrixed switches is shown alongside a window highlighting the location/state of the currently selected switch on the game’s playfield (at right in figure B6). The switch is displayed as a small, blinking square; the color of the square represents its current state.

Active switches, regardless of their type, are displayed in bright green squares. Inactive opto switches are displayed in light tan (if normally unblocked) or dark tan (if normally blocked) squares; all other inactive switches are displayed in bright blue (if normally open) or navy blue (if normally closed) squares. Bad switches (switches that have been inactive for approximately 60 balls played) are displayed as red squares. Unused positions in the matrix are not displayed in the playfield window.

All switch driver (column) and return (row) numbers are shown, along with corresponding wire colors and I/O Board connector/pin numbers.

You can scroll through the list of matrixed switches, using the **Up/+** and **Down/-** buttons, and select any switch to test. You can then repeatedly open or close the selected switch manually, observing the results in the playfield window. The game also provides an audible response each time the state of the switch changes. Note: When adjusting a switch, the best method for testing it is to roll a pinball over it, through it, or into it.

To exit the **Single Switch Test** at any time, press the **Back/Escape** button.

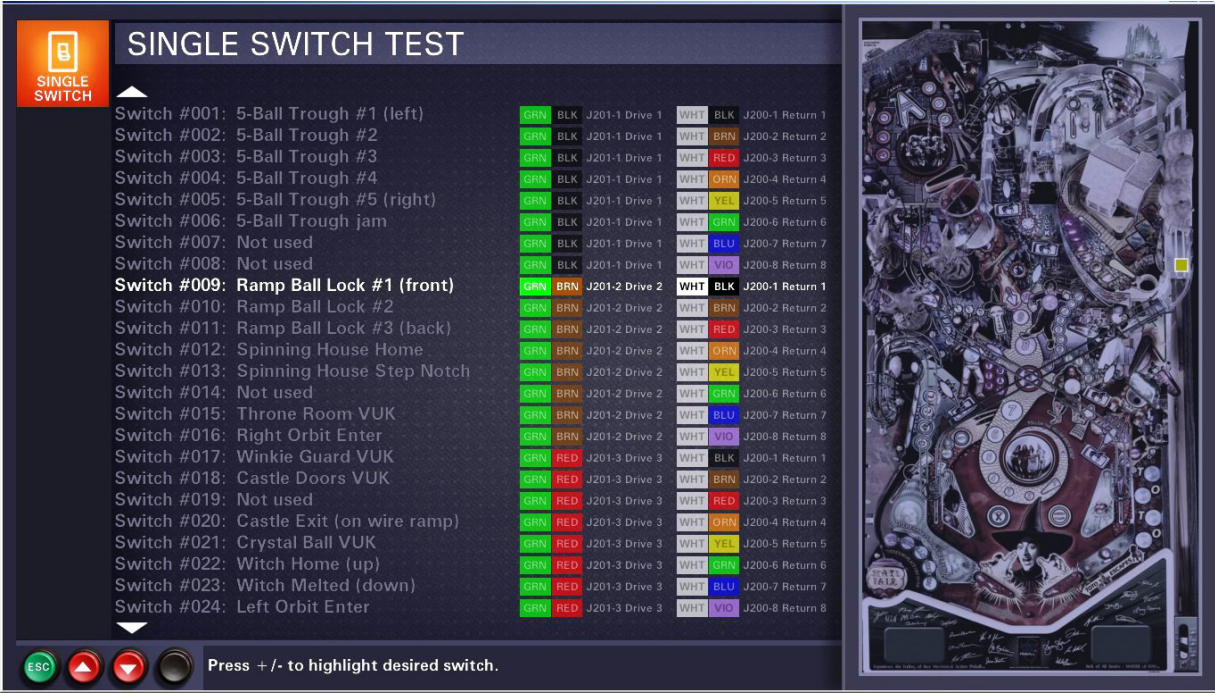


Figure B6. Single Switch Test screen.



Coil Driver Test

When you enter the **Coil Driver Test**, the LCD monitor will display the screen shown in figure B7. The entire list of coils, magnets, motors, and lights is shown alongside a window highlighting the location of the currently selected device on the game’s playfield (at right in figure B7). The device is displayed as a small, white, blinking square. Note: Devices in the list that cannot be activated in the **Coil Driver Test** are highlighted in blue text (these devices have their own specific tests).

Coil number, power/trigger wire colors, I/O Board connectors/pins, drive transistor, in-line fuses, and supply voltage level are provided for each device in the list.

There are three different modes for triggering a device: **RUNNING**, **REPEAT**, and **MANUAL**. The current mode is highlighted in green text at the top of the screen; you change the current mode by pressing the **Enter** button. In **RUNNING** mode, the game automatically cycles through the list, triggering each device once. In **REPEAT** mode, you scroll through the list (using the **Up/+** and **Down/-** buttons) and select a specific device; the game then repeatedly triggers it (press the **Back/Escape** button to exit the mode). In **MANUAL** mode, you select a specific device in the list and trigger it yourself using the **Start** button on the front of the cabinet.

Note: When the coin door is opened, the game’s safety interlock switch (the upper switch on item 14, page C-2 of this manual) disables the 70-volt power running to the playfield. In order to activate 70-volt devices in the **Coil Driver Test**, you must either close the coin door or pull the safety interlock switch’s actuator out (it will “click” and lock in place). When you close the coin door, the interlock switch actuator will be pushed back into its normal (unlocked) position. **CAUTION:** With the coin door closed or interlock switch’s actuator locked in place, most of the high power coils will be enabled, so slingshots, pop bumpers, VUKs, and flippers (if activated by the flipper buttons) will kick a ball around as it rolls down the playfield - or fire when trigger switches are closed by any means. **So please be careful with your fingers and tools on the playfield surface! If you lift the playfield for any reason, please be careful around high power coil lugs, as they present a shock hazard!**

To exit the **Coil Driver Test** at any time, press the **Back/Escape** button.

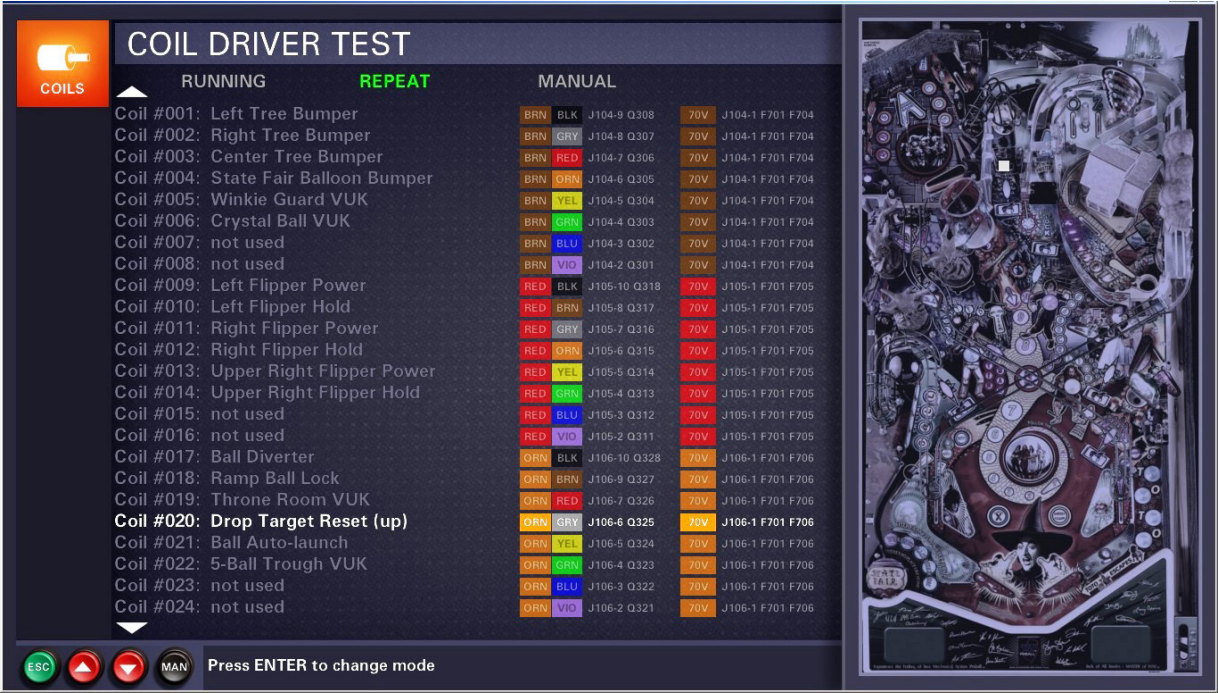


Figure B7. Coil Driver Test screen.



Ordered LED Test

When you enter the **Ordered LED Test**, the LCD monitor will display the screen shown in figure B8. The entire list of RGB LEDs is shown alongside a window highlighting the location of the currently selected LED on the game's playfield (at right in figure B8). The LED is represented in the window by a small, white, blinking circle, while the actual LED flashes on the playfield.

Initially, the selected LED flashes the color white. You can change the color to red, green, or blue and then back to white by repeatedly pressing the **Enter** button. The current color will be displayed at the top of the screen. You can scroll through the list of LEDs using the **Up/+** and **Down/-** buttons.

For this test, the RGB LEDs are listed in numerical/serial order. WOZ's RGB LED string is one long serial chain. The **Ordered LED Test** allows you to step through and test the entire string of RGB LEDs for proper color representation and intensity, in the order they are physically wired under the playfield.

To exit the **Ordered LED Test** at any time, press the **Back/Escape** button.

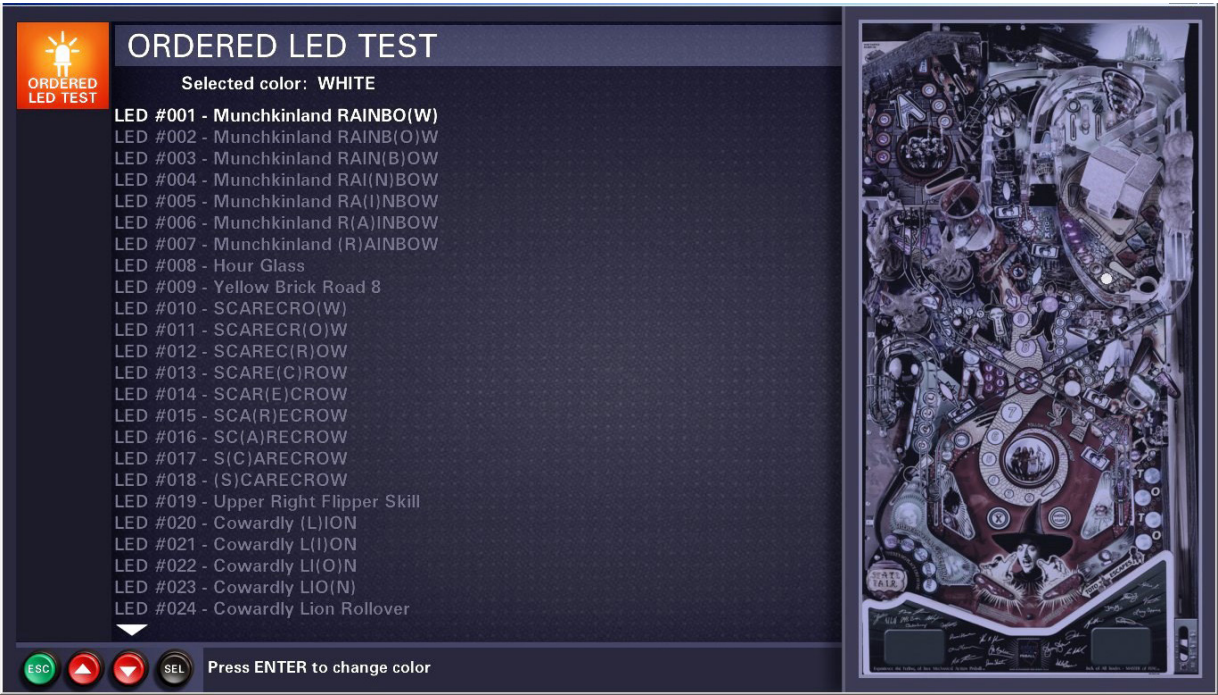


Figure B8. Ordered LED Test screen.



Grouped LED Test

When you enter the **Grouped LED Test**, the LCD monitor will display the screen shown in figure B9. The entire list of RGB LEDs is shown alongside a window highlighting the location of the current-ly-selected light on the game's playfield (at right in figure B9). The light is displayed in the window as a small, white, blinking circle while the actual LED flashes on the playfield.

Initially, the selected LED flashes the color white. You can change the color to red, green, or blue and then back to white by repeatedly pressing the **Enter** button. The current color will be displayed at the top of the screen. You can scroll through the list of LEDs using the **Up/+** and **Down/-** buttons.

For this test, the RGB LEDs are listed in logical/grouped order. WOZ's RGB LED string is one long serial chain. The **Grouped LED Test** allows you to step through and test the entire string of RGB LEDs for proper color representation and intensity, in groups (T, I, N, M, A, N and Tin Man rollover) in logical order (words spelled in order), as they are associated on the playfield. The list begins with the LEDs in the lower left corner of the main playfield and progresses in a CW direction to the lower right corner; the LEDs under the two upper playfields are at the bottom of the list.

To exit the **Grouped LED Test** at any time, press the **Back/Escape** button.



Figure B9. Grouped LED Test screen.



Reverse Order LED Test

When you enter the **Reverse Order LED Test**, the LCD monitor will display the screen shown in figure B10. The entire list of RGB LEDs is shown alongside a window highlighting the location of the currently selected LED on the game’s playfield (at right in figure B10). The LED is represented in the window by a small, white, blinking circle, while the actual LED flashes on the playfield.

Initially, the selected LED flashes the color white. You can change the color to red, green, blue and back to white by repeatedly pressing the **Enter** button. The current color will be displayed at the top of the screen. You can scroll through the list of LEDs using the **Up/+** and **Down/-** buttons.

For this test, the RGB LEDs are listed in reverse hardware order (the reverse order that the RGB LED boards are physically wired under the playfield). The **Reverse Order LED Test** allows you to step through and test this entire chain, in reverse order, one LED at a time.

To exit the **Reverse Order LED Test** at any time, press the **Back/Escape** button.

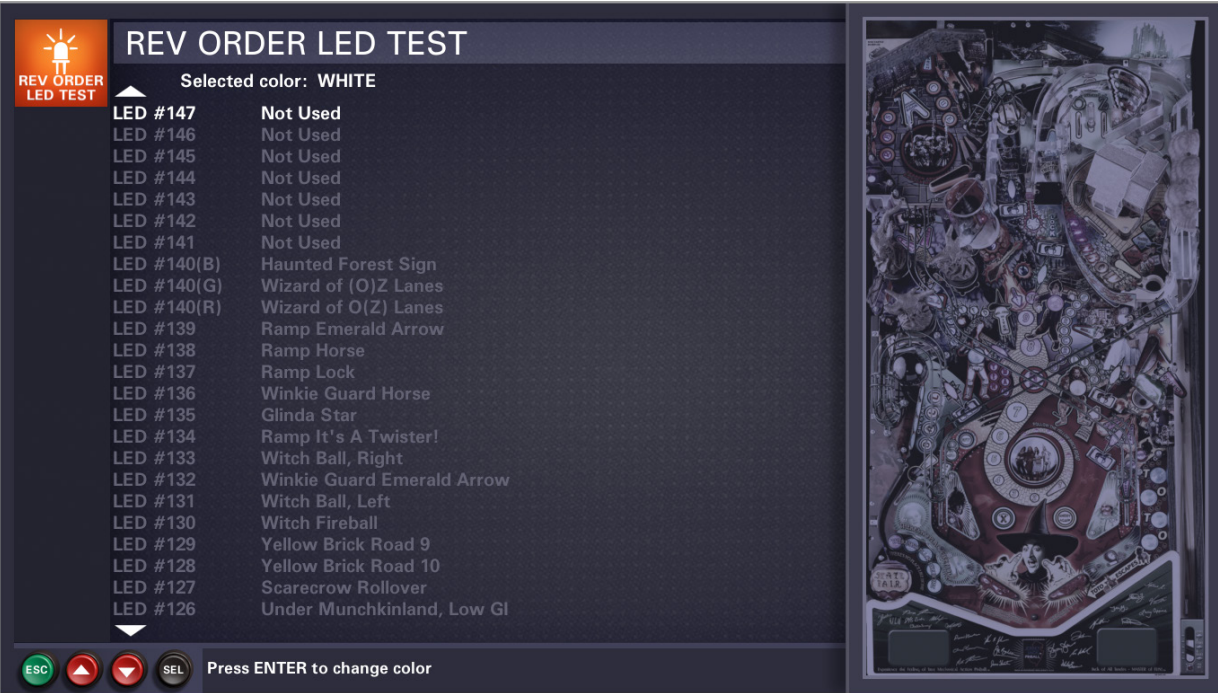


Figure B10. Reverse Order LED Test screen.



All LED Test

When you enter the **All LED Test**, the LCD monitor will display the screen shown in figure B11. The entire string of RGB LEDs is lit at once. Initially, the LEDs are white and not flashing. You can change the color to red, green, blue and back to white by repeatedly pressing either the **Up/+** or **Down/-** button. The current color will be displayed at the top of the screen. Press the **Enter** button to toggle the LED string between flashing and constant-on.

To exit the **All LED Test** at any time, press the **Back/Escape** button.

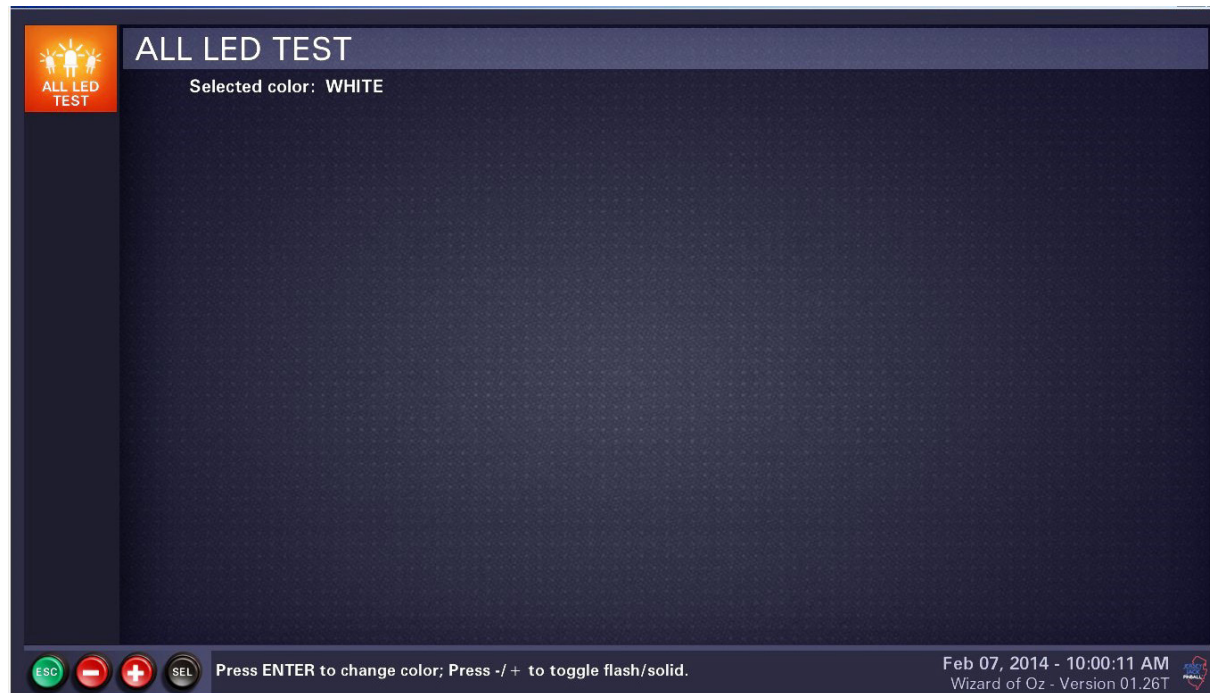


Figure B11. All LED Test screen.



GI Only Test

When you enter the **GI Only Test**, the LCD monitor will display the screen shown in figure B12. All RGB LEDs used for general illumination are lit at once. Initially, the LEDs are white and not flashing. You can change the color to red, green, blue and back to white by repeatedly pressing either the **Up/+** or **Down/-** button. The current color will be displayed at the top of the screen. Press the **Enter** button to toggle the GI RGB LEDs between flashing and constant-on.

To exit the **GI Only Test** at any time, press the **Back/Escape** button.



Figure B12. GI Only Test screen.



LED And Flash Test

When you enter the **LED And Flash Test**, the LCD monitor will display the screen shown in figure B13. All RGB LEDs are lit at once. All CPU-controlled lights (spotlights, playfield Oz head light, etc.) are flashing. Initially, the RGB LEDs are white and not flashing. You can change the color of the RGB LEDs to red, green, blue and back to white by repeatedly pressing the **Enter** button. The current color will be displayed at the top of the screen. Press either the **Up/+** or **Down/-** button to toggle the RGB LEDs between flashing and constant-on.

To exit the **LED And Flash Test** at any time, press the **Back/Escape** button.



Figure B13. LED And Flash Test screen.



Display Test

When you enter the **Display Test**, the LCD monitor will display an edge-to-edge red screen, as shown at left in figure B14. You can change the full-screen color to green, blue, then white by pressing the *Up/+*, *Down/-* or *Enter* button three times. Pressing one of these buttons again will fill the screen with a white grid against a black background; once more will change the grid to black against a white background.

The color screens allow you to test the LCD monitor’s color saturation performance, from edge to edge. The grids allow you to test image alignment on the monitor.

To exit the **Display Test** at any time, press the *Back/Escape* button.

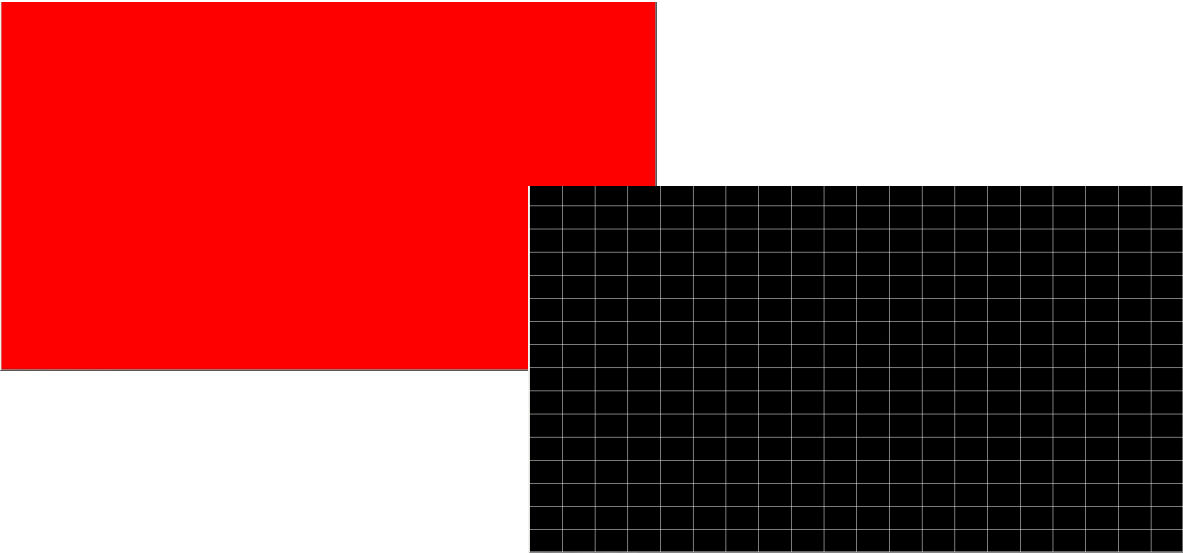
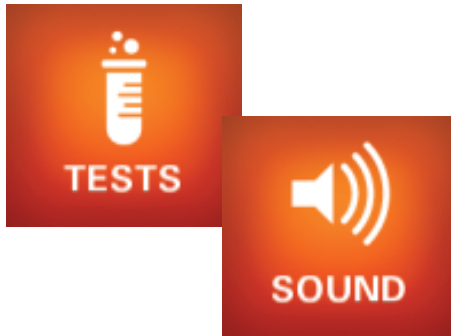


Figure B14. Display Test screens.



Sound Test

When you enter the **Sound Test**, the LCD monitor will display the screen shown in figure B15. The list of programmed test sounds is displayed.

There are three different modes for testing sounds: **RUNNING**, **REPEAT** and **MANUAL**. The current mode is highlighted in green text at the top of the screen; you change the current mode by pressing the **Enter** button. In **RUNNING** mode, the game automatically cycles through the list, playing each sound once. In **REPEAT** mode, you scroll through the list (using the **Up/+** and **Down/-** buttons) and select a specific sound; the game then repeatedly plays it. In **MANUAL** mode, you select a specific sound in the list and trigger it yourself using the **Start** button on the front of the cabinet.

To exit the **Sound Test** at any time, press the **Back/Escape** button.

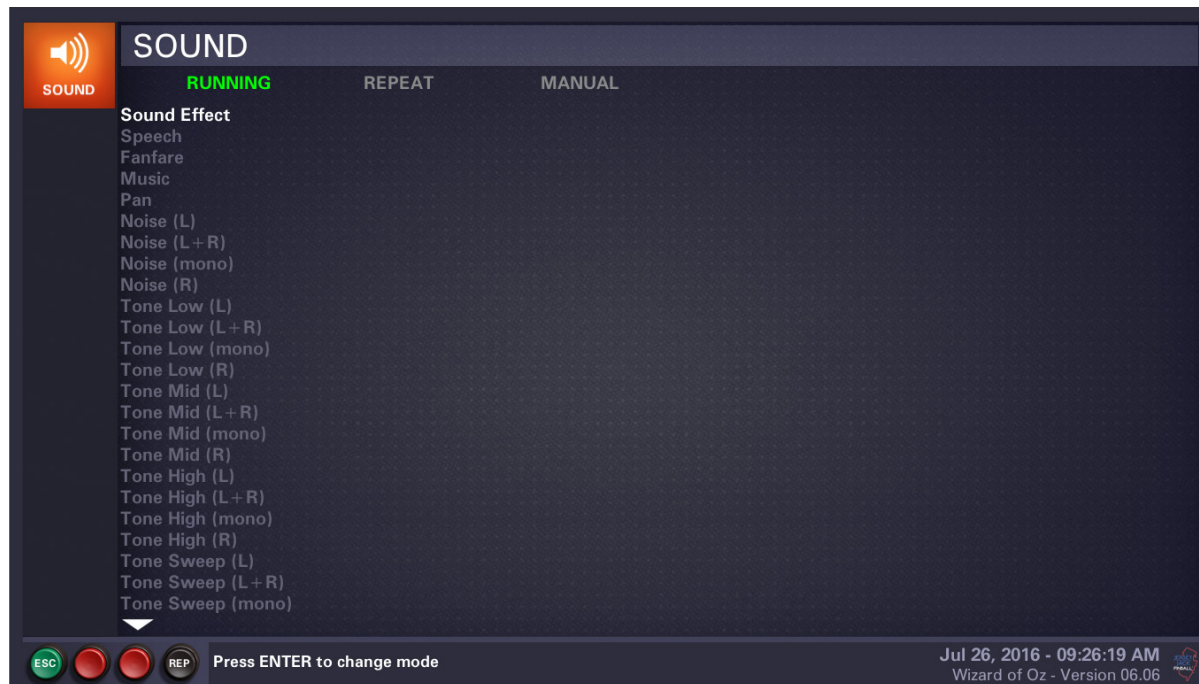


Figure B15. Sound Test screen.



Ball Trough Test

When you enter the **Ball Trough Test**, the LCD monitor will display the screen shown in figure B16. The squares on the screen represent the current states of the six opto switch transmitter/receiver pairs in the ball trough mechanism, under the lower part of the playfield. There are five opto switches in the bottom of the trough (labeled “#1” to “#5”) and one higher, in the neck of the trough VUK (labeled “jam”). A green square represents a blocked opto switch, typically caused by a ball in that position in the trough. A transparent square represents an unblocked opto switch (no ball in that position). For reference, corresponding matrixed switch numbers are shown under each square.

You can use the **Enter** button to fire the trough VUK. The rightmost ball in the trough will be kicked into the shooter lane, then Auto-Launched up the playfield. Most of the high power coils will be enabled, so slingshots, pop bumpers, VUKs, and flippers (if activated by the flipper buttons) will kick a ball around as it rolls down the playfield - so **be careful with your fingers!** You can empty the trough, one ball at a time (catching each one before it returns to the trough), and test all of the trough opto switches in the process.

Note: When the coin door is opened, the game’s safety interlock switch (the upper switch on item 14, page C-2 of this manual) disables the 70-volt power running to the playfield. To allow coils to function in the **Ball Trough Test**, you must either close the coin door or pull the safety interlock switch’s actuator out (it will “click” and lock in place). When you close the coin door, the interlock switch actuator will be pushed back into its normal (unlocked) position. **CAUTION:** With the coin door closed or interlock switch’s actuator locked in place, most of the high power coils will be enabled, so slingshots, pop bumpers, VUKs, and flippers (if activated by the flipper buttons) will kick a ball around as it rolls down the playfield - or fire when trigger switches are closed by any means. **So please be careful with your fingers and tools on the playfield surface! If you lift the playfield for any reason, please be careful around high power coil lugs, as they present a shock hazard!**

To exit the **Ball Trough Test** at any time, press the **Back/Escape** button.

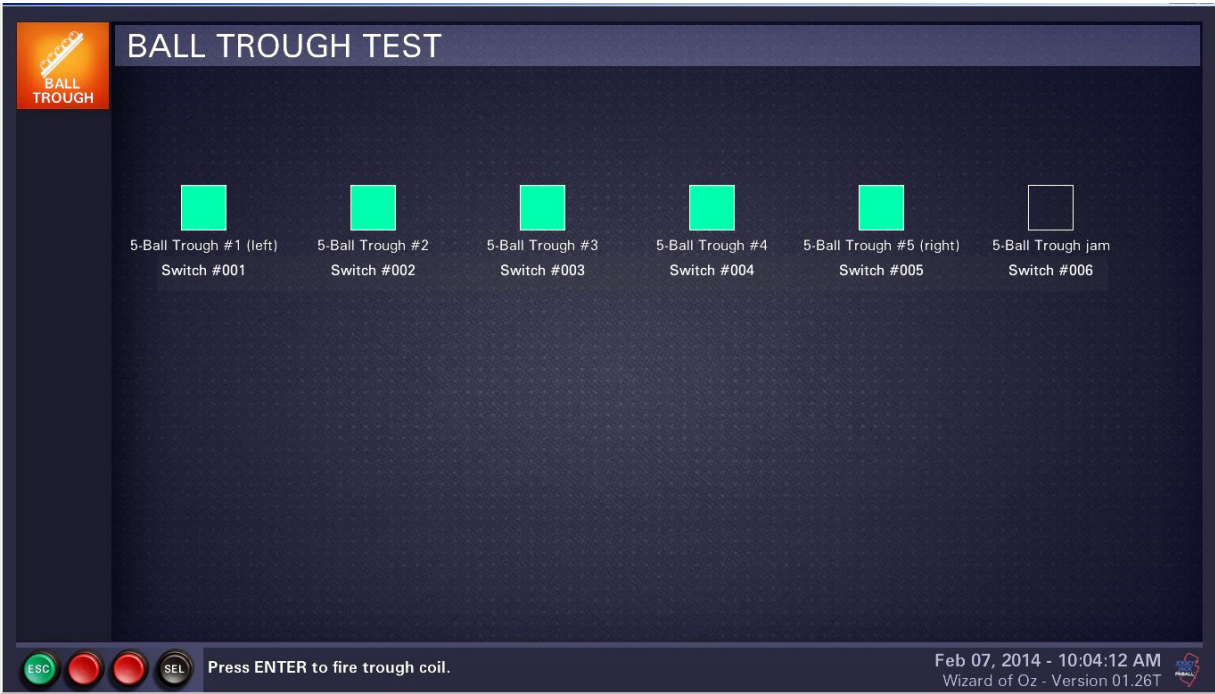


Figure B16. Ball Trough Test screen.

Winged Monkey Mechanism Test

When you enter the **Winged Monkey Mechanism Test**, the LCD monitor will display the screen shown in figure B17. The upper squares on the screen represent the states of the two microswitches on the winged monkey assembly (one at the top, one at the bottom), behind the back panel of the playfield. The lower two squares represent the states of the **Up/+** and **Down/-** buttons. A green square indicates a closed switch (or a button being pressed); a transparent square indicates an open switch (or no button being pressed).

There are two different modes for testing the winged monkey mechanism: **MANUAL** and **AUTO**. The current mode is highlighted in green text at the top of the screen; you change the current mode by pressing the **Enter** button. In **AUTO** mode, the game repeatedly cycles the winged monkey character, up and down, between the castle playfield and the main playfield. When the monkey reaches a travel limit (high or low), one of the microswitches should close (Home/Castle or Away/Magnet) as the monkey reverses direction. In **MANUAL** mode, you control the movement of the monkey with the **Up/+** and **Down/-** buttons. **Down/-** moves the monkey upward, toward the castle playfield; **Up/+** moves the monkey downward, toward the main playfield. When the monkey reaches a travel limit (high or low), one of the microswitches should close (Home/Castle or Away/Magnet) as the monkey stops moving. Note: You cannot move the monkey beyond the point where its limit switch closes (its square will be green on the LCD screen).

You can also test the magnet that holds the ball as the monkey travels up to the castle playfield. In **MANUAL** mode, the magnet will be activated whenever **Up/+** or **Down/-** is pressed. You can hold the ball under the monkey, then press **Up/+** or **Down/-**. The monkey magnet should capture and hold the ball until the **Up/+** or **Down/-** button is released. **CAUTION: To avoid SERIOUS injury, ALWAYS ensure that your hands, fingers, clothing, etc. stay WELL clear of the monkey mechanism while it is in motion!** As with other tests, most of the high power coils will be enabled, so sling-shots, pop bumpers, VUKs and flippers (if activated by the flipper buttons) will kick a ball around as it rolls down the playfield, so **be careful with your fingers** in these locations too!

Note: When the coin door is opened, the game’s safety interlock switch (the upper switch on item 14, page C-2 of this manual) disables the 70-volt power running to the playfield. To allow the monkey magnet to function in the **Winged Monkey Mechanism Test**, you must either close the coin door or pull the safety interlock switch’s actuator out (it will “click” and lock in place). When you close the coin door, the interlock switch actuator will be pushed back into its normal (unlocked) position.

To exit the **Winged Monkey Mechanism Test** at any time, press the **Back/Escape** button.

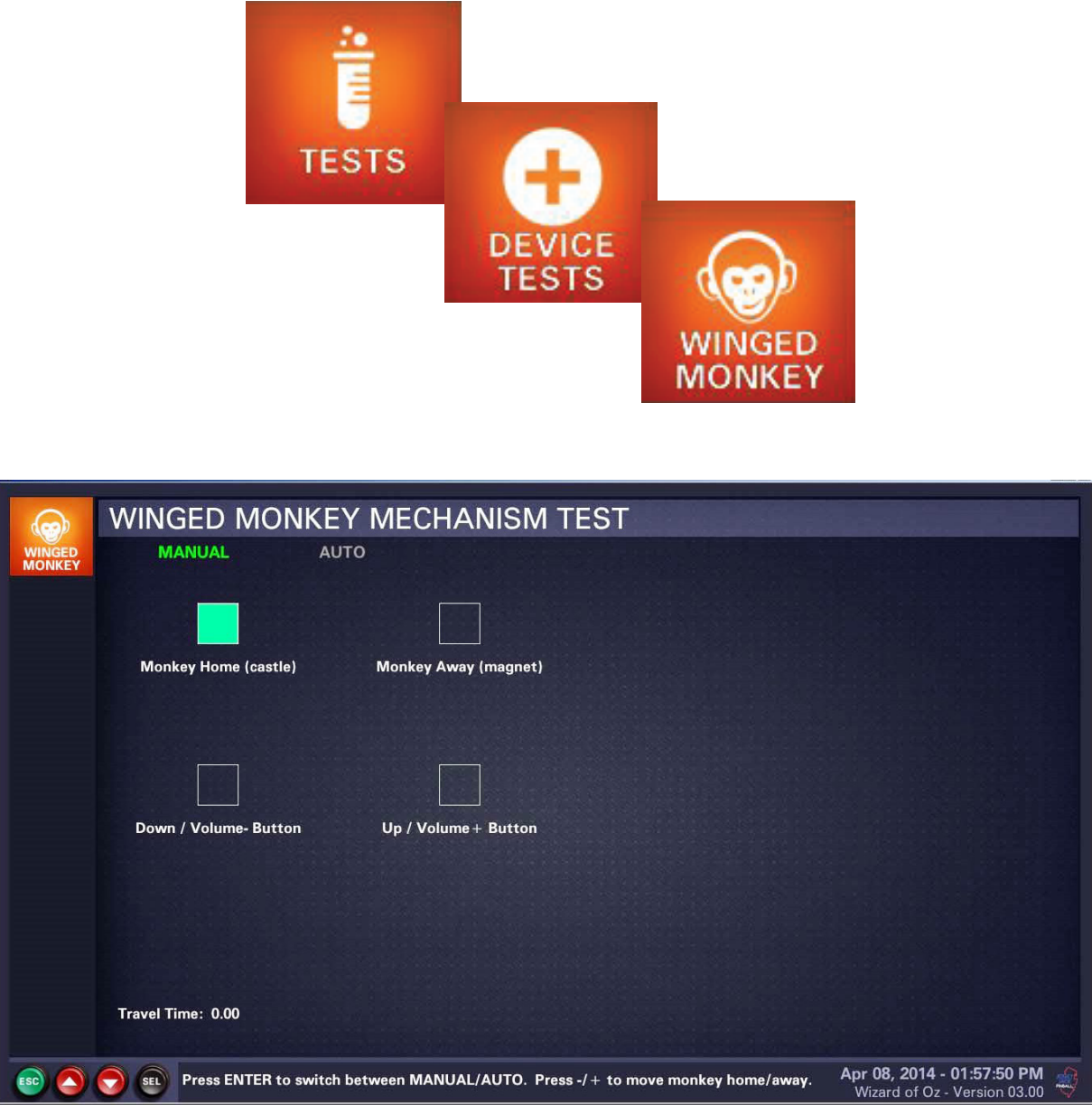


Figure B17. Winged Monkey Mechanism Test screen.



Witch Mechanism Test

When you enter the **Witch Mechanism Test**, the LCD monitor will display the screen shown in figure B18. The upper squares on the screen represent the states of the two U-shaped opto switches on the witch assembly, roughly in the center of the playfield. One opto switch indicates that the witch is in the up position; the other indicates that the witch is in the down position. The lower two squares represent the states of the **Up/+** and **Down/-** buttons. A green square indicates an activated opto switch (or a button being pressed); a transparent square indicates an inactive opto switch (or no button being pressed).

There are two different modes for testing the Witch Mechanism: **MANUAL** and **AUTO**. The current mode is highlighted in green text at the top of the screen; you change the current mode by pressing the **Enter** button. In **AUTO** mode, the game repeatedly cycles the witch character, up and down, in its protective tube. When the witch reaches a travel limit (high or low), one of the optos should activate (Home/Up or Melted/Down) as the witch reverses direction. In **MANUAL** mode, you control the movement of the witch with the **Up/+** and **Down/-** buttons. **Up/+** moves the witch upward; **Down/-** moves the witch downward. When the witch reaches a travel limit (high or low), one of the opto switches should activate (Home/Up or Melted/Down) as the witch stops moving. Note: You cannot move the witch beyond the point where its limit switch activates (its square will be green on the LCD screen).

To exit the **Witch Mechanism Test** at any time, press the **Back/Escape** button.

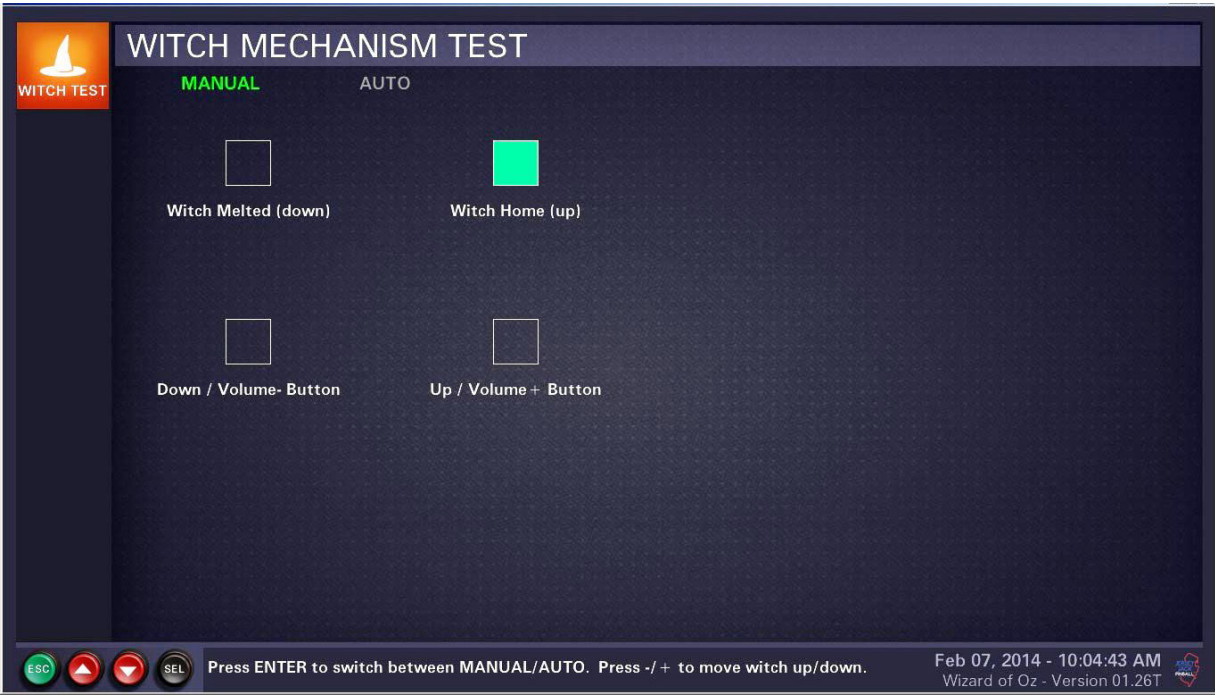


Figure B18. Witch Mechanism Test screen.



Spinning House Mechanism Test

When you enter the **Spinning House Mechanism Test**, the LCD monitor will display the screen shown in figure B19. There are two functions to calibrate in this test screen: the stopping point for the spinning house (House Fine Tuning) and the kicking strength of the house wall drop coil (House Wall Drop Strength). Proper adjustment of these two mechanisms allows the Spinning House (and the witch's feet "underneath" it) to function consistently and reliably during game play.

You select a function to calibrate with the **Up/+** and **Down/-** buttons. The currently selected function will be highlighted in white text. To make a change, press the **Enter** button, then use the **Up/+** and **Down/-** buttons to specify a new numeric value. With House Fine Tuning, you are providing an offset to the spinning house to better align its "pivoting wall" with the coil that kicks it (to reveal the witch's legs). With House Wall Drop Strength, you are providing a kicking strength for the house wall drop coil. Once you're finished adjusting a numerical value, press the **Enter** button once again to accept the change. To cancel the change, press the **Back/Escape** button.

To test a function, select it with the **Up/+** or **Down/-** button, then press the **Start** button on the front of the cabinet. With House Fine Tuning, the house will spin around 3 times and stop at the specified offset from its home position. With House Wall Drop Strength, the house wall drop coil will fire at the specified strength and hold for a little over a second. You can go back and forth between these function tests, making adjustments as necessary, until the witch's legs are completely and consistently revealed (the pivoting wall rolls over and lies nice and flat).

Note: The alignment of the spinning house is, by far, the most critical of these adjustments. The wall drop coil will do its job, at the factory-prescribed strength, more times than not. We recommend that you ensure that the spinning house is aligned properly before adjusting the wall drop coil strength.

To exit the **Spinning House Mechanism Test** at any time, press the **Back/Escape** button.

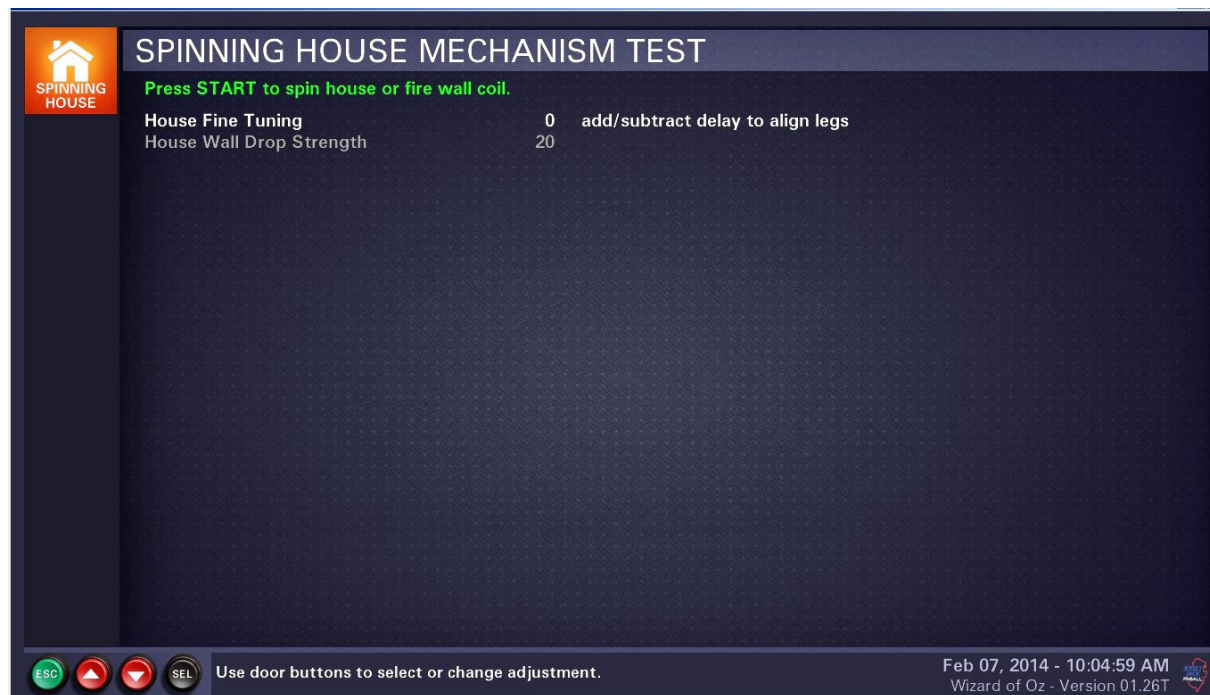


Figure B19. Spinning House Mechanism Test screen.



Castle Double Doors Test

When you enter the **Castle Double Doors Test**, the LCD monitor will display the screen shown in figure B20. This is a relatively simple test. Press the **Enter** button to open the castle doors. The castle double doors latch will disengage and the castle double doors will open in unison. They remain open until you press the **Enter** button again, whereupon both doors close and the double doors latch re-engages.

To exit the **Castle Double Doors Test** at any time, press the **Back/Escape** button.

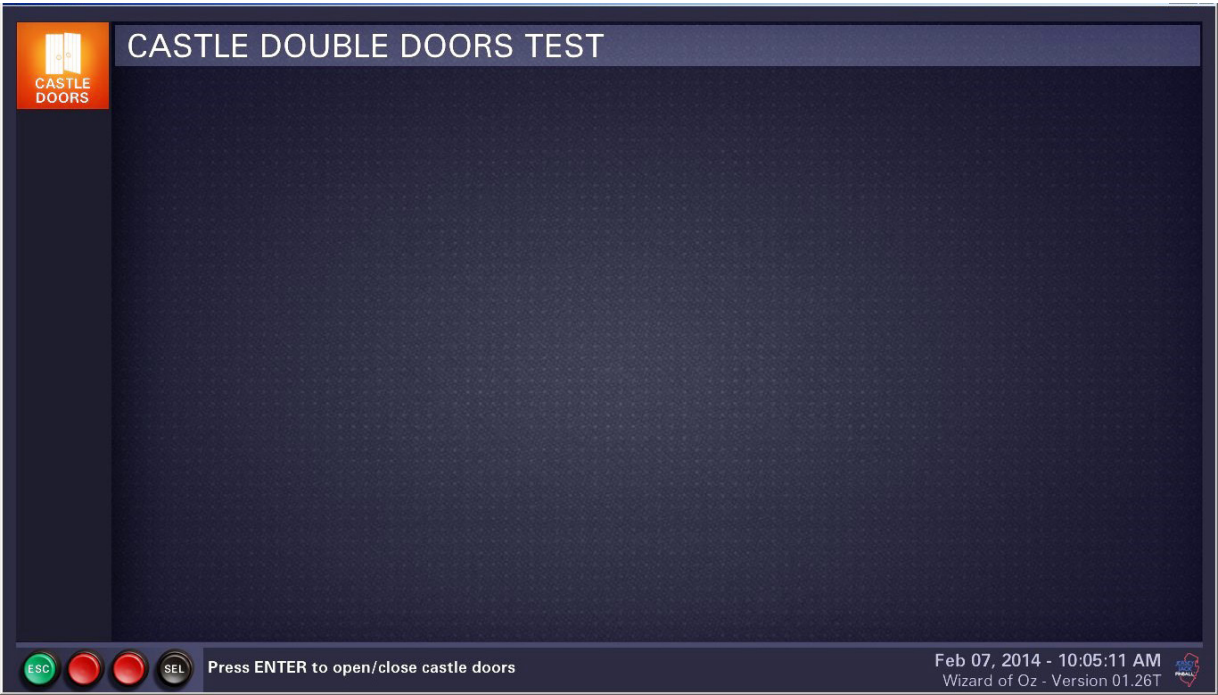
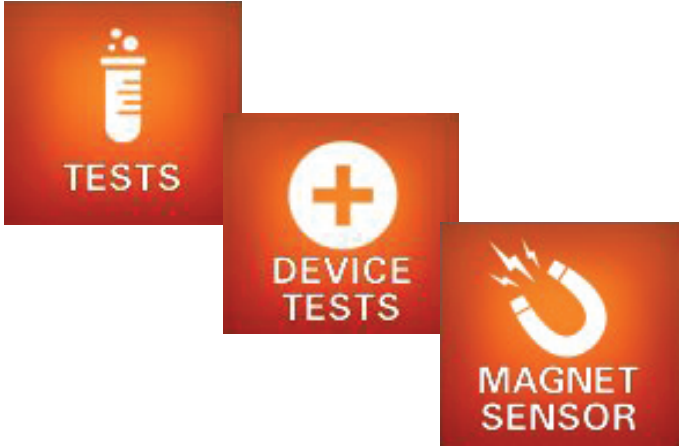


Figure B20. Castle Double Doors Test screen.

Top Lane Magnet Sensor Test



When you enter the **Top Lane Magnet Sensor Test**, the LCD monitor will display the screen shown in figure B21. The upper squares on the screen represent the states of the top lanes magnet coil (green when activated, black when not) and the monkey magnet sensor/switch (green when a ball is detected on the top lanes magnet, transparent when not). The lower two squares represent the states of the **Enter** button (green when pressed, transparent when not) and the right orbit made rollover switch (green when activated, black when not).

The purpose of the monkey magnet sensor is to detect a ball being held by the top lanes magnet (at the top of the main playfield). Sometimes, a weak shot up the orbit will trigger the magnet, but the ball never actually makes it to the magnet (it rolls back down the orbit). Before sending the winged monkey down to capture the ball (with its own magnet), we want to ensure that the ball is actually on the top lanes magnet.

There are two ways to catch a ball on the top lanes magnet in this test: roll it up the right orbit or hold it near the magnet and press the **Enter** button. If you choose to roll a ball up the orbit, both the right orbit enter and right orbit made switches need to be in good working order. If either switch is malfunctioning, the magnet will not activate. When everything is working properly, the top lanes magnet will catch and hold the ball for approximately 2 seconds, then the ball will be released (to roll back down the playfield). Most of the high power coils will be enabled, so slingshots, pop bumpers, VUKs, and flippers (if activated by the flipper buttons) will kick a ball around as it rolls down the playfield - so **be careful with your fingers!** While the ball is being held by the top lanes magnet, you can see if the monkey magnet sensor is detecting its presence (its square will turn green).

Note: When the coin door is opened, the game's safety interlock switch (the upper switch on item 14, page C-2 of this manual) disables the 70-volt power running to the playfield. To allow the top lanes magnet to function in the **Top Lane Magnet Sensor Test**, you must either close the coin door or pull the safety interlock switch's actuator out (it will "click" and lock in place). When you close the coin door, the interlock switch actuator will be pushed back into its normal (unlocked) position. **CAUTION:** With the coin door closed or interlock switch's actuator locked in place, most of the high power coils will be enabled, so slingshots, pop bumpers, VUKs, and flippers (if activated by the flipper buttons) will kick a ball around as it rolls down the playfield - or fire when trigger switches are closed by any means. **So please be careful with your fingers and tools on the playfield surface! If you lift the playfield for any reason, please be careful around high power coil lugs, as they present a shock hazard!**

To exit the **Top Lane Magnet Sensor Test** at any time, press the **Back/Escape** button.

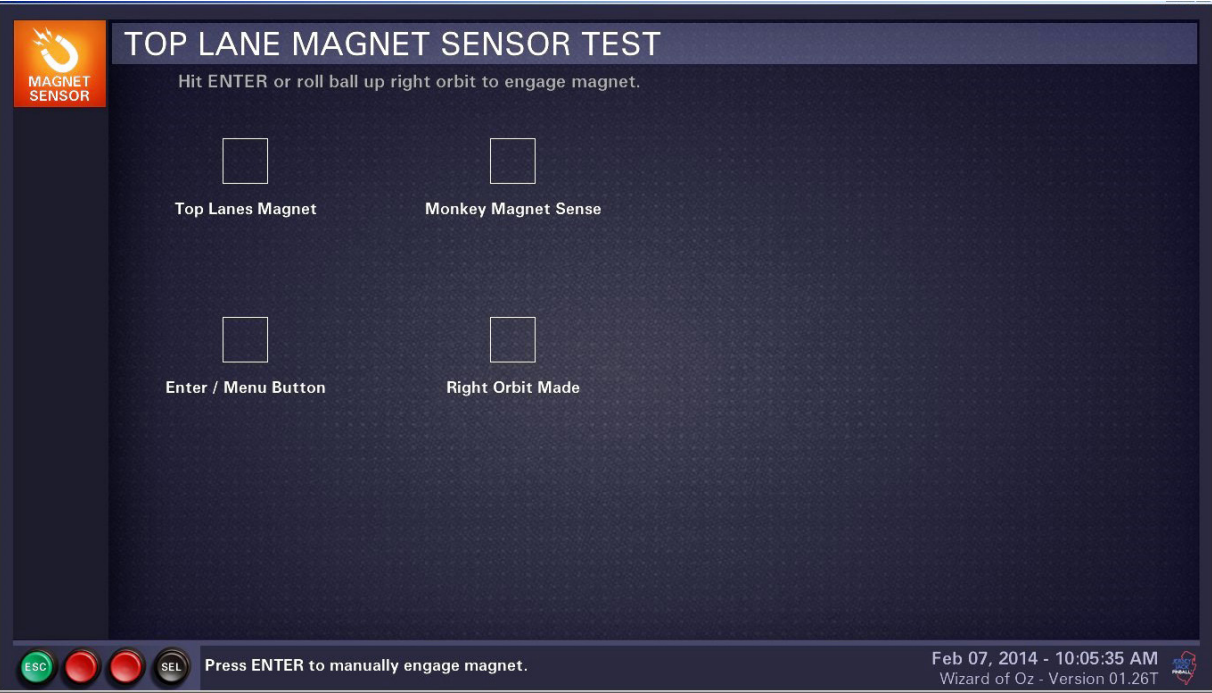


Figure B21. Top Lane Magnet Sensor Test screen.

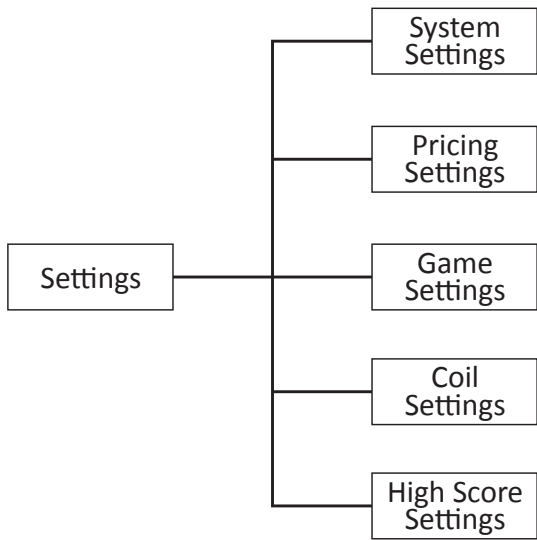


Figure B22. Settings menu tree.

B.3 Settings

The **Settings** menu (see figure B22 for an outline) allows the user to adjust system, pricing, game, coil and high score settings, to personalize the game (home use) or optimally configure it for a location or route (commercial use).

System Settings - adjust settings for high-level game controls such as balls per game, ball save time, tilt warnings, audio levels, match percentage and replay/scoring awards.

Pricing Settings - adjust settings for pricing controls such as free play, accepted currency, coin door specifics and pricing tiers/levels.

Game Settings - adjust game-specific settings such as **TOTO** difficulty, house wall drop, clear locks after game, topper brightness and Twister mode goals.

Coil Settings - adjust kicking strength for virtually every coil in the game.

High Score Settings - adjust settings related to high scores such as whether the game will record them, what the award for high score will be, multiple player initials and default high scores.

System Settings



When you enter the **System Settings** menu, the LCD monitor will display the screen shown in figure B23. Settings that have been changed from factory defaults are displayed in red. Default settings are displayed in green, but only when a menu item is highlighted. Menu items that cannot be altered are displayed in gray. You can scroll through menu items with the **Up/+** and **Down/-** buttons; press **Enter** to select an item you would like to change. Use the **Up/+** and **Down/-** buttons to alter the highlighted data value, then press **Enter** to accept the new value. Press **Back/Escape** to escape from a selected menu item without saving changes. NOTE: **Pindemption® settings** are only available in a WOZ game with a Pindemption®-enabled security dongle.

To exit the **System Settings** menu at any time, press the **Back/Escape** button.

GENERAL

Game Play Type: specify how the game will end: after a designated number of balls played or a designated amount of time. **<Pindemption® setting>**

BALLS: traditional style of pinball play Default: BALLS
TIME: timed pinball play

Balls Per Game: specify the number of balls each player gets to play within a single game.
1-5: 1-5 balls Default: 3 balls

Time Per Game: specify how long a game will last. **<Pindemption® setting>**
30-300: 30-300 seconds Default: 45 seconds

Timed Game Over Time: specify a timed game will end. **<Pindemption® setting>**
INSTANT DEATH: game ends when timer reaches zero. Default: INSTANT DEATH
SUDDEN DEATH: game ends when timer reaches zero and the ball in play drains.
SUDDEN TIMER: game ends when timer reaches zero and the Sudden Death Timer reaches zero.

Sudden Death Timer: specify the amount of sudden death time. **<Pindemption® setting>**
2-15: 2-15 seconds Default: 10 seconds

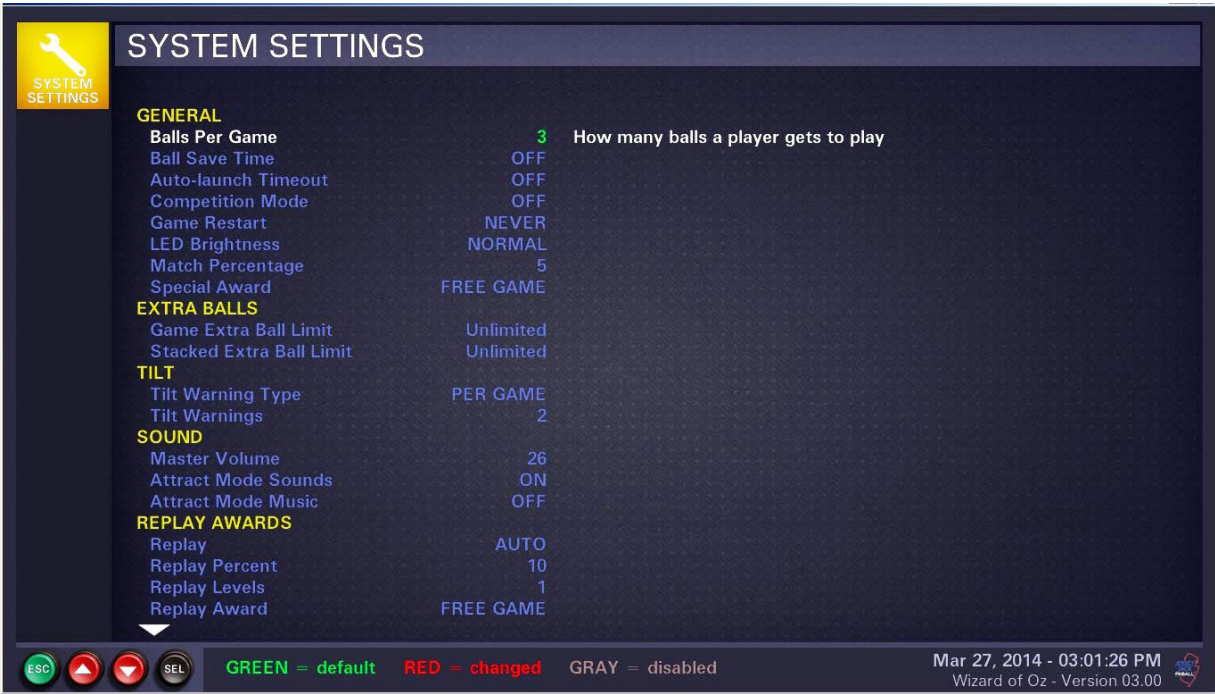


Figure B23. System Settings screen.

- Ball Save Time:** specify the time, from ball launch, up to which the game will Auto-Launch a re-placement ball into play, if a player’s ball drains for any reason (except a tilt).
OFF: ball save feature disabled Default: OFF
1-20: 1-20 seconds
- Money-In Auto-Start:** specify whether the game will begin immediately when a credit equivalent, in money, has been inserted or not.
ON: begin game immediately Default: OFF
OFF: do not begin immediately
- Auto-Launch Timeout:** specify whether the game will auto-launch a served ball from the shooter lane, after a designated period of time or not.
30, 60, 90: 30, 60 & 90 second auto-lanch Default: OFF
OFF: never auto-launch a served ball
- Flipper Auto-Launch:** specify whether the flipper buttons can be used to launch a served ball into play or not.
LEFT FLIPPER: left button launches ball Default: OFF
RIGHT FLIPPER: right button launches ball
EITHER FLIPPER: either button launches ball
BOTH FLIPPERS: both buttons, simultaneously pressed, launch ball
OFF: flipper buttons don’t launch ball
- Competition Mode:** specify whether the game will give random awards and allow carry-over fea- tures during gameplay or not.
ON: no random awards or carry-over features Default: OFF
OFF: allow random awards and carry-over features
- Chase Ball:** specify whether a chase ball will be auto-launched into play when ball search cannot locate the ball in play.
ON: use a chase ball Default: ON
OFF: do not use a chase ball
- Game Restart:** specify how the game responds to the start button being pressed in the middle of a game already in progress.
NEVER: never restart the game Default: NEVER
SLOW: restart the game only if the start button is held in for 1/2 second or more

- LED Brightness:** specify the intensity level of LEDs under the playfield inserts.
LOW: lowest intensity Default: NORMAL
LOWER: low-medium intensity
NORMAL: medium intensity
HIGH: highest intensity
- Match Percentage:** specify the desired percentage of games, on average, that will be awarded a match at the end.
OFF: no match feature Default: 5%
1-20: 1-20%
- Special Award:** specify the award for scoring a Special during a game.
FREE GAME: a free game Default: FREE GAME
EXTRA BALL: an extra ball
POINTS: a predefined number of points
- Status Report Display Time:** specify the number of seconds each status report page will be shown.
5-10: 5-10 seconds Default: 5 seconds
- Display Error Dot:** specify whether to display an error dot on the LCD screen when the game de- tects a potential problem or not.
YES: display an error dot Default: NO
NO: do not display an error dot
- EXTRA BALLS**
- Game Extra Ball Limit:** specify the maximum number of extra balls that can be won in any game.
1-9: 1-9 extra balls Default: Unlimited
Unlimited: unlimited extra balls
No Extra Balls: no extra balls
- Stacked Extra Ball Limit:** specify the maximum number of extra balls that can be stacked by a player at any time during a game.
1-9: 1-9 extra balls Default: Unlimited
Unlimited: unlimited extra balls
No Extra Balls: no extra balls

SCORE AWARDS

Score Award Levels: specify the number of score award levels. With the score award system, you can configure up to four fixed score Levels, along with specific awards for reaching each of those levels. You can also define and employ Score Award Boosts, if desired.

0-4: 0-4 levels Default: 0 levels

Score Level 1: specify 1st score award level (Score Award Levels: 1-4 only).

20000-100000: 20,000-100,000 points Default: 30,000 points

Score Level 2: specify 2nd score award level (Score Award Levels: 2-4 only).

50000-150000: 50,000-150,000 points Default: 75,000 points

Score Level 3: specify 3rd score award level (Score Award Levels: 3-4 only).

85000-200000: 85,000-200,000 points Default: 95,000 points

Score Level 4: specify 4th score award level (Score Award Levels: 4 only).

100000-300000: 100,000-300,000 points Default: 150,000 points

Score Award 1: specify award for achieving score level 1 (Score Award Levels: 1-4 only).

FREE GAME: a free game Default: EXTRA BALL

EXTRA BALL: an extra ball

LIGHT SPECIAL: light Special on the playfield

AUDIT: no award, just record in Audits

Score Award 2: specify award for achieving score level 2 (Score Award Levels: 2-4 only).

FREE GAME: a free game Default: EXTRA BALL

EXTRA BALL: an extra ball

LIGHT SPECIAL: light Special on the playfield

AUDIT: no award, just record in Audits

Score Award 3: specify award for achieving score level 3 (Score Award Levels: 3-4 only).

FREE GAME: a free game Default: EXTRA BALL

EXTRA BALL: an extra ball

LIGHT SPECIAL: light Special on the playfield

AUDIT: no award, just record in Audits

Score Award 4: specify award for achieving score level 4 (Score Award Levels: 4 only).

FREE GAME: a free game Default: EXTRA BALL

EXTRA BALL: an extra ball

LIGHT SPECIAL: light Special on the playfield

AUDIT: no award, just record in Audits

Score Award Boost: specify whether to temporarily boost score levels (when achieved) or not (Score Award Levels: 1-4 only).

OFF: no score level boost Default: OFF

5000-50000: 5,000-50,000 point boost

Two yellow square buttons with rounded corners. The left button features a white wrench icon and the text 'SETTINGS' in white capital letters. The right button features a white wrench icon and the text 'PRICING SETTINGS' in white capital letters.

To exit the **Pricing Settings** menu at any time, press the **Back/Escape** button.

YES: play for free
NO: require currency for play

Dollars (\$): Dollars Default: Dollars

Pounds (£): Pounds

Yen (¥): Yen

Krone (kr): K

Krona (kr): Krona

Coins: coins

Tokens: `toke`

Swipes: card swipes through a reader

Bills: bills through a bill acceptor

\$0.00: Unlimited dollar amount Default: \$0.00

\$0.01-\$100,000.00: \$0.01-\$100,000.00

0: Unlimited credits Default: 0

1-100: 1-100 credits



COIN DOOR

Coin Switch 1 Pulse Amount: specify the amount of currency represented by one pulse from coin switch 1.

\$0.01-\$100,000.00: \$0.01-\$100,000.00 Default: \$0.25

Coin Switch 2 Pulse Amount: specify the amount of currency represented by one pulse from coin switch 2.

\$0.01-\$100,000.00: \$0.01-\$100,000.00 Default: \$0.25

Coin Switch 3 Pulse Amount: specify the amount of currency represented by one pulse from coin switch 3.

\$0.01-\$100,000.00: \$0.01-\$100,000.00 Default: \$0.25

Coin Switch 4 Pulse Amount: specify the amount of currency represented by one pulse from coin switch 4.

\$0.01-\$100,000.00: \$0.01-\$100,000.00 Default: \$0.25

Coin Switch 5 Pulse Amount: specify the amount of currency represented by one pulse from coin switch 5.

\$0.01-\$100,000.00: \$0.01-\$100,000.00 Default: \$0.25

Card Reader Installed: specify whether a card reader is installed in the game or not.

YES: card reader installed Default: NO

NO: no card reader installed

PRICING SCHEME

Pricing Levels: specify the number of desired pricing levels (or tiers).

1-10: 1-10 levels Default: 1 level

Tier 1 Cost: specify cost for pricing tier 1.

\$0.01-\$100,000.00: \$0.01-\$100,000.00 Default: \$1.00

Tier 1 Credits: specify the number of credits for pricing tier 1.

1-100: 1-100 credits Default: 1 credit

Tier 2 Cost: specify cost for pricing tier 2.

\$0.01-\$100,000.00: \$0.01-\$100,000.00 Default: \$2.00

Tier 2 Credits: specify the number of credits for pricing tier 2.

1-100: 1-100 credits Default: 2 credits

Tier 3 Cost: specify cost for pricing tier 3.

\$0.01-\$100,000.00: \$0.01-\$100,000.00 Default: \$3.00

Tier 3 Credits: specify the number of credits for pricing tier 3.

1-100: 1-100 credits Default: 3 credits

Tier 4 Cost: specify cost for pricing tier 4.

\$0.01-\$100,000.00: \$0.01-\$100,000.00 Default: \$4.00

Tier 4 Credits: specify the number of credits for pricing tier 4.

1-100: 1-100 credits Default: 4 credits

Tier 5 Cost: specify cost for pricing tier 5.		
<i>\$0.01-\$100,000.00:</i>	<i>\$0.01-\$100,000.00</i>	Default: \$5.00
Tier 5 Credits: specify the number of credits for pricing tier 5.		
<i>1-100:</i>	<i>1-100 credits</i>	Default: 5 credits
Tier 6 Cost: specify cost for pricing tier 6.		
<i>\$0.01-\$100,000.00:</i>	<i>\$0.01-\$100,000.00</i>	Default: \$6.00
Tier 6 Credits: specify the number of credits for pricing tier 6.		
<i>1-100:</i>	<i>1-100 credits</i>	Default: 6 credits
Tier 7 Cost: specify cost for pricing tier 7.		
<i>\$0.01-\$100,000.00:</i>	<i>\$0.01-\$100,000.00</i>	Default: \$7.00
Tier 7 Credits: specify the number of credits for pricing tier 7.		
<i>1-100:</i>	<i>1-100 credits</i>	Default: 7 credits
Tier 8 Cost: specify cost for pricing tier 8.		
<i>\$0.01-\$100,000.00:</i>	<i>\$0.01-\$100,000.00</i>	Default: \$8.00
Tier 8 Credits: specify the number of credits for pricing tier 8.		
<i>1-100:</i>	<i>1-100 credits</i>	Default: 8 credits
Tier 9 Cost: specify cost for pricing tier 9.		
<i>\$0.01-\$100,000.00:</i>	<i>\$0.01-\$100,000.00</i>	Default: \$9.00
Tier 9 Credits: specify the number of credits for pricing tier 9.		
<i>1-100:</i>	<i>1-100 credits</i>	Default: 9 credits
Tier 10 Cost: specify cost for pricing tier 10.		
<i>\$0.01-\$100,000.00:</i>	<i>\$0.01-\$100,000.00</i>	Default: \$10.00
Tier 10 Credits: specify the number of credits for pricing tier 10.		
<i>1-100:</i>	<i>1-100 credits</i>	Default: 10 credits

Game Settings



When you enter the **Game Settings** menu, the LCD monitor will display the screen shown in figure B25. Settings that have been changed from factory defaults are displayed in red. Default settings are displayed in green, but only when a menu item is highlighted. Menu items that cannot be altered are displayed in gray. You can scroll through menu items with the **Up/+** and **Down/-** buttons; press **Enter** to select an item you would like to change. Use the **Up/+** and **Down/-** buttons to alter the highlighted data value, then press **Enter** to accept the new value. Press **Back/Escape** to escape from a selected menu item without saving changes.

To exit the **Game Settings** menu at any time, press the **Back/Escape** button.

GENERAL

Clear Locks On Game Over: specify whether to release balls that were locked (behind the single castle door and/or in the ramp lock) during the previous game or not. Locks are cleared after the last ball of a game drains.

- YES: clear locks Default: NO
- NO: do not clear locks

Topper Idle Brightness: specify the brightness level for the game’s lighted topper.

- 1-32: 1-32 level Default: 32 level

Reverse Mini PF Flippers: reverse the default controls for the upper playfield flippers: control castle flipper with left flipper button; control Munchkinland flipper with right flipper button.

- ON: reverse controls Default: OFF
- OFF: do not reverse controls

Animated Backglass Frequency: specify how often the animated backglass is shown in attract mode.

- A little: infrequently Default: A little
- A lot: frequently
- Extreme: very frequently

Minimum Diamonds for Attract Mode: specify the minimum number of earned diamonds that will be displayed/listed during attract mode

- 0-8: 0-8 diamonds Default: 4 diamonds



Figure B25. Game Settings screen.

Game Number: limited edition game number (limited edition games only).
####: game number Default: OFF
OFF: disable game number function

TOTO
Max Toto Waves: specify the number of times the Toto ball save feature can be attempted in a game (each successful attempt will require player to make more difficult shots on the next attempt).
0-6: 0-6 times Default: 2 times

Toto Wave Difficulty Increases: specify how often the difficulty level for Toto waves will increase.
HARD: after each attempt Default: HARD
EASY: after each success

SPINNING HOUSE
House Wall Drop Enabled: specify whether to enable the wall drop (witch’s feet reveal) feature on the spinning house or not. Disable this setting if your spinning house is not functioning properly.
YES: wall drop enabled Default: YES
NO: wall drop disabled

WITCH HURRY-UP
Hits to Raise Witch: specify how many witch target hits will be required to raise the witch.
1-3: 1-3 hits Default: 3 hits

Hits to Lower Witch: specify how many witch target hits will be required to melt the witch.
1, 2: 1 or 2 hits Default: 2 hits

FIREBALL FRENZY
When you have successfully completed several witch hurry-ups, the Fireball arrow insert in front of the witch will light. Hit the witch once more to begin Fireball Frenzy. Shoot the blue shot to collect a jackpot score. Avoid the red shots; hitting one will cause the witch to throw a fireball!

First Extra Ball At: specify how many jackpot shots will be required to light Extra Ball.
5-25: 5-25 jackpots Default: 10 jackpots

EB Shot Add Amount: specify how many more jackpot shots will be required to light Extra Ball again.
3-50: 3-50 jackpots Default: 5 jackpots

Maximum FBF Extra Balls: specify the maximum number of Extra Balls allowed during Fireball Frenzy.
0-10: 0-10 extra balls Default: 5 extra balls

FBF Extra Ball Memory: specify whether the FBF Extra Ball light (if unearned) will be “remembered” from ball to ball or not.
ON: remember FBF Extra Ball Default: ON
OFF: reset FBF Extra Ball

HORSE OF A DIFFERENT COLOR
Horse Extra Ball Level: specify how many HOADC collect shots will be required to light Extra Ball.
4-7: 4-7 collect shots Default: 5 collect shots
OFF: disable HOADC Extra Ball feature

Horse Extra Ball Memory: specify whether the HOADC Extra Ball light (if unearned) will be “remembered” from ball to ball or not.
ON: remember HOADC Extra Ball Default: ON
OFF: reset HOADC Extra Ball

RAINBOW
RAINBOW Difficulty: specify the difficulty level for spelling RAINBOW.
1-3: 1-3 difficulty level Default: 2 level

RAINBOW Difficulty Increases: specify when the difficulty level for spelling RAINBOW will increase.
CYCLE: after each set of Munchkin Modes Default: CYCLE
MODE: after each Munchkin Mode (very hard)

TWISTER
When the RAINBOW targets have been completed, a ramp shot will be diverted onto the Munchkinland playfield for the Twister feature. The player will be required to make a certain number of loop shots (around the spinning house) to begin a Munchkin Mode. If the ball drains from the Munchkinland playfield before the loop goal is reached, a timer will begin to allow another ramp shot onto the Munchkinland playfield, to complete the loop goal. You can control the minimum loop goal for the initial Munchkin Mode, the duration of the restart timer, the loop goal increment that will be required to achieve successive Munchkin Modes and the absolute maximum the loop goal will ever be in a game.

YBR Spots: specify the number of ADVANCE YELLOW BRICK ROAD inserts that will be spotted at the beginning of a game.
0-9: 0-9 YBR inserts Default: 0 YBR inserts

YBR Advance Difficulty: specify the difficulty level for lighting the ADVANCE YELLOW BRICK ROAD inserts.
1-4: 1-4 level Default: 2 level

YBR Extra Ball Memory: specify whether the YBR Extra Ball light (if unearned) will be “remembered” from ball to ball or not.
ON: remember YBR Extra Ball Default: ON
OFF: reset YBR Extra Ball

WIZARD MYSTERY

Initial Letters Per Hit: specify how many WIZARD letters are awarded for a shot into the Throne Room.
1-3: 1-3 letters Default: 3 letters

Awards Per Difficulty: specify how many Mystery awards can be collected before the difficulty level for spelling WIZARD will be increased.
1-5: 1-5 awards Default: 1 award

WM Extra Ball Memory: specify whether the WM Extra Ball light (if unearned) will be “remembered” from ball to ball or not.
ON: remember WM Extra Ball Default: ON
OFF: reset WM Extra Ball

Allow Tilt Warning Award: specify whether to allow an additional tilt warning as a Mystery award or not.
ON: allow tilt warning Mystery award Default: ON
OFF: do not allow tilt warning Mystery award

THERE’S NO PLACE LIKE HOME

TNPLH Timed: specify whether TNPLH feature must be completed within a certain time limit or not.
YES: time limit applied Default: YES
NO: no time limit

TNPLH Start Difficulty: specify difficulty level for starting TNPLH ball save feature.
1-8: 1-8 level Default: 3 level

TNPLH RAINBOW Difficulty: specify difficulty level for spelling RAINBOW during TNPLH feature.
1-3: 1-3 level Default: 2 level

TNPLH Difficulty Increases: specify how often the difficulty level for starting TNPLH feature will increase.
Completion: each time TNPLH completed Default: Attempt
Attempt: each time TNPLH attempted

TNPLH RAINBOW Difficulty Increases: specify how often the difficulty level for spelling RAINBOW (during TNPLH mode) will increase.
Completion: each time TNPLH completed Default: Completion
Never: difficulty never increases

TNPLH Stage Memory: specify whether TNPLH stage progress (if not completed) will be “remembered” for the next attempt or not.
YES: remember stage progress Default: YES
NO: go back to stage 1

TNPLH Timer Start: specify the starting value (in seconds) for the TNPLH timer.
10-99: 10-99 seconds Default: 25 seconds

TNPLH RAINBOW Time: specify the number of seconds restored to the timer when a flashing RAINBOW target is hit.
1-30: 1-30 seconds Default: 2 seconds

TNPLH Marvel Time: specify the number of seconds restored to the timer when a flashing Marvel (Crystal Ball or Throne Room) shot is hit.
1-30: 1-30 seconds Default: 6 seconds

TNPLH Twister Time: specify the number of seconds restored to the timer when a flashing Twister (Emerald City Ramp) shot is hit.
1-30: 1-30 seconds Default: 5 seconds

MONITOR

Width Scale: the width extent of the game’s LCD screen, in pixels (1000 is the maximum).

Height Scale: the height extent of the game’s LCD screen, in pixels (1000 is the maximum).

X Offset: the left offset for the game’s LCD screen, in pixels.

Y Offset: the top offset for the game’s LCD screen, in pixels.

RGB LED (LIGHT) BOARDS

If one of your RGB LED boards is malfunctioning, it will affect all of the boards “downstream” (see Section E.5 of this manual). Once you’ve identified the problem board, use the reverse-ordered list of boards below to disable it in software. Set the problem board to “OFF” when it’s been physically skipped under the playfield.

WOZLED10 Board

WOZLED3 Board

GI 27 Board

WOZLED4 Board

GI 26 Board

GI 25 Board

GI 24 Board

GI 23 Board

GI 22 Board

GI 21 Board

GI 20 Board

WOZLED1 Board

GI 19 Board

WOZLED9 Board

GI 18 Board

GI 17 Board

GI 16 Board

GI 15 Board

WOZLED2 Board

GI 28 Board

WOZLED5 Board

WOZLED7 Board

GI 14 Board

GI 13 Board

GI 30 Board

WOZLED8 Board

GI 31 Board

GI 12 Board

GI 10 Board

GI 9 Board

GI 11 Board

GI 8 Board

GI 7 Board

GI 6 Board

GI 5 Board

GI 4 Board

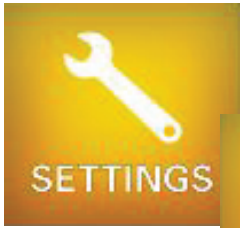
GI 3 Board

GI 2 Board

GI 1 Board

GI 29 Board

WOZLED6 Board



FLIPPERS

- Left Flipper Strength:** specify the firing strength for the left flipper power coil.

1-32: 1-32 firing strength

Default: 22
- Right Flipper Strength:** specify the firing strength for the right flipper power coil.

1-32: 1-32 firing strength

Default: 22
- Upper Right Flipper Strength:** specify the firing strength for the upper right flipper power coil.

1-32: 1-32 firing strength

Default: 18
- Castle Flipper Strength:** specify the firing strength for the castle flipper power coil.

1-32: 1-32 firing strength

Default: 12
- Right Flipper Strength:** specify the firing strength for the Munchkinland flipper power coil.

1-32: 1-32 firing strength

Default: 12

BUMPERS

- Left Tree Bumper Strength:** specify the firing time for the left tree pop bumper coil.

1-64: 1-64 milliseconds

Default: 16 milliseconds
- Right Tree Bumper Strength:** specify the firing time for the right tree pop bumper coil.

1-64: 1-64 milliseconds

Default: 16 milliseconds
- Center Tree Bumper Strength:** specify the firing time for the center tree pop bumper coil.

1-64: 1-64 milliseconds

Default: 16 milliseconds
- State Fair Balloon Bumper Strength:** specify the firing time for the State Fair Balloon pop bumper coil.

1-64: 1-64 milliseconds

Default: 16 milliseconds

SLINGSHOTS

- Left Slingshot Strength:** specify the firing time for the left slingshot coil.

2-10: 2-10 milliseconds

Default: 4 milliseconds

- Right Slingshot Strength:** specify the firing time for the right slingshot coil.

2-10: 2-10 milliseconds

Default: 4 milliseconds

- Top Lanes Slingshot Strength:** specify the firing time for the top lanes slingshot coil.

2-8: 2-8 milliseconds

Default: 4 milliseconds

VERTICAL UP-KICKERS

- Crystal Ball VUK Strength:** specify the firing strength for the Crystal Ball VUK coil.

1-32: 1-32 firing strength

Default: 16
- Throne Room VUK Strength:** specify the firing strength for the Throne Room VUK coil.

1-32: 1-32 firing strength

Default: 14
- Winkie Guard VUK Strength:** specify the firing strength for the Winkie Guard VUK coil.

1-32: 1-32 firing strength

Default: 12
- Castle Doors VUK Strength:** specify the firing strength for the Castle Doors VUK coil.

1-32: 1-32 firing strength

Default: 32

RAMP LOCKUP

- 1-Ball Kick Time:** specify the amount of time to hold the ramp lock release open to release a ball with only one ball in the lock.

150-500: 150-500 milliseconds

Default: 250 milliseconds
- 2-Ball Kick Time:** specify the amount of time to hold the ramp lock release open to release a ball with two balls in the lock.

150-500: 150-500 milliseconds

Default: 250 milliseconds
- 3-Ball Kick Time:** specify the amount of time to hold the ramp lock release open to release a ball with three balls in the lock.

150-500: 150-500 milliseconds

Default: 250 milliseconds
- Diverter Hold Strength:** specify the holding strength for the ramp diverter coil.

1-32: 1-32 holding strength

Default: 8

The WOZ Menu System  B-37

3, 11: 3 or 11 characters Default: 3

Multiple Initials/Player: specify whether a player can enter their initials differently when they become champion in more than one area during a game or not. *Example:* a player becomes both Grand Champion and YBR Champ in the same game. This setting determines whether that player is prompted for his initials twice (once for each achievement) or just once at the end of the game.
 ON: allow multiple prompts for initials Default: ON
 OFF: prompt only once for initials

H.S.T.D. Reset Every: specify how often (in number of games) high scores will be reset.
 OFF: never reset high scores Default: 2,000 games
 200-10000: 200-10,000 games

Champion Credits: specify the number of credits awarded for the Grand Champion score.
 0-10: 0-10 credits Default: 1 credit

H.S.T.D. 1 Credits: specify the number of credits awarded for high score to date #1.
 0-10: 0-10 credits Default: 1 credit

H.S.T.D. 2 Credits: specify the number of credits awarded for high score to date #2.
 0-10: 0-10 credits Default: 1 credit

H.S.T.D. 3 Credits: specify the number of credits awarded for high score to date #3.
 0-10: 0-10 credits Default: 1 credit

H.S.T.D. 4 Credits: specify the number of credits awarded for high score to date #4.
 0-10: 0-10 credits Default: 1 credit

H.S.T.D. 5 Credits: specify the number of credits awarded for high score to date #5.
 0-10: 0-10 credits Default: 0 credits

H.S.T.D. 6 Credits: specify the number of credits awarded for high score to date #6.
 0-10: 0-10 credits Default: 0 credits

H.S.T.D. 7 Credits: specify the number of credits awarded for high score to date #7.
 0-10: 0-10 credits Default: 0 credits

H.S.T.D. 8 Credits: specify the number of credits awarded for high score to date #8.
 0-10: 0-10 credits Default: 0 credits

Default Grand Champ: specify the default Grand Champion score.
 100000-1000000: 100,000-1,000,000 points Default: 600,000 points

Default H.S.T.D. 1: specify the default high score to date #1.
 90000-900000: 90,000-900,000 points Default: 500,000 points

Default H.S.T.D. 2: specify the default high score to date #2.
 80000-800000: 80,000-800,000 points Default: 400,000 points

Default H.S.T.D. 3: specify the default high score to date #3.
 70000-700000: 70,000-700,000 points Default: 300,000 points

Default H.S.T.D. 4: specify the default high score to date #4.
 60000-600000: 60,000-600,000 points Default: 250,000 points

Default H.S.T.D. 5: specify the default high score to date #5.
 50000-500000: 50,000-500,000 points Default: 200,000 points

Default H.S.T.D. 6: specify the default high score to date #6.
 40000-400000: 40,000-400,000 points Default: 150,000 points

Default H.S.T.D. 7: specify the default high score to date #7.
 30000-250000: 30,000-250,000 points Default: 125,000 points

Default H.S.T.D. 8: specify the default high score to date #8.
 20000-200000: 20,000-200,000 points Default: 100,000 points

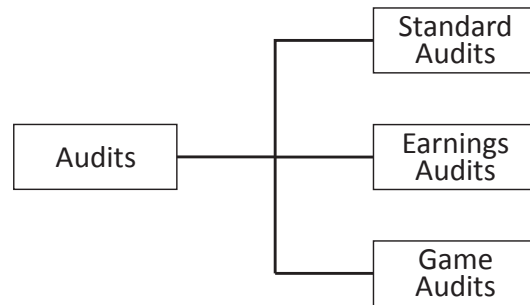


Figure B28. Audits menu tree.

B.4 Audits

The **Audits** menu (see figure B28 for an outline) allows the user to view, monitor and/or track game usage and earnings over a specific time period (since audits were last cleared and over the lifetime of the game).

Standard Audits - view game-related totals such as balls played, 1-, 2-, 3- & 4-player games started, extra balls, tilts, replays, matches, etc.

Earnings Audits - view totals for paid credits, eaten money, eaten credits, free plays, service credits, pricing tier purchases and coins accepted in each slot.

Game Audits - view totals for various shots made (targets hit or switches closed) and modes started and/or completed in the game.

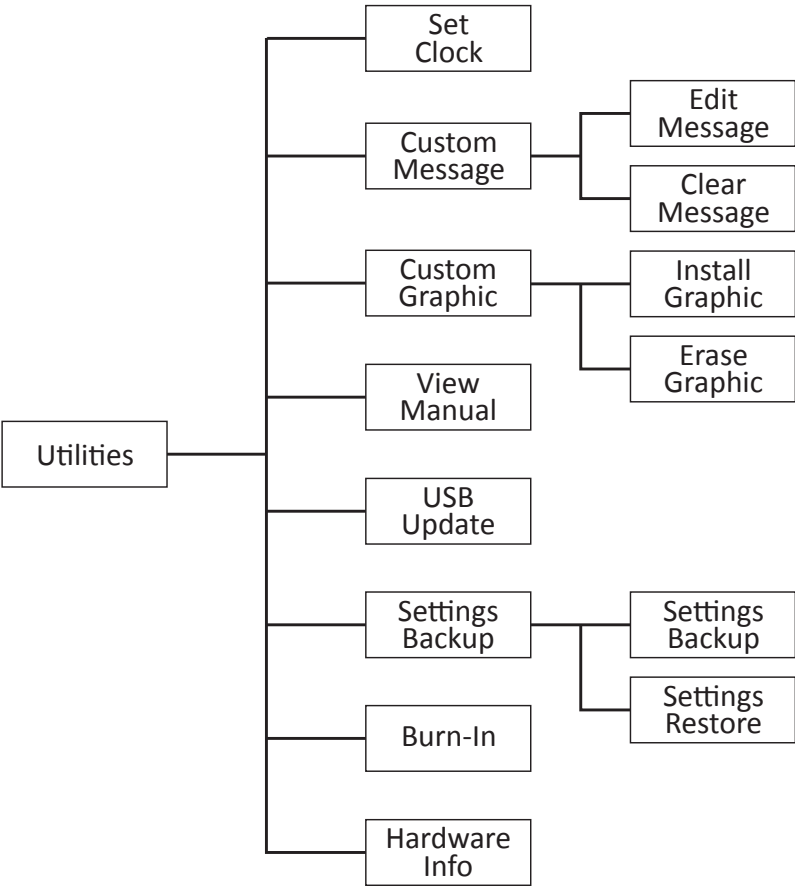


Figure B29. Utilities menu tree.

B.5 Utilities

The **Utilities** menu (see figure B29 for an outline) allows the user to manage and maintain the game by setting the internal clock, entering messages/graphics and through commonly-used routines like burn-in and software update. There are also utility screens to save/restore settings and view this manual, hardware information and/or the game error log.

Set Clock - adjust the system date and time.

Custom Message - enter/change a message for the game to display in attract mode (**Edit Message**) or clear an existing message from the game (**Clear Message**).

Custom Graphic - upload/select (**Install Graphic**) an image for the game to display in attract mode. Erase uploaded graphics with the **Erase Graphic** utility.

View Manual - display/navigate the PDF version of the WOZ manual on the game’s LCD screen.

USB Update - update the game’s software via a USB memory stick. Note: The update must be downloaded from the JJP® support website (<http://www.jerseyjackpinball.com/game-specific-downloads/>), using a separate computer.

Settings Backup - backup (**Settings Backup**) and/or restore (**Settings Restore**) settings, audits, replay information and custom message for the game.

Burn-In - run a preset routine to exercise all of the critical devices in the game, repeatedly, to test for reliable, long-term system operation.

Hardware Info - view game hardware characteristics such as game serial number, firmware revision levels, motherboard type, available RAM, processor speed & solid state disk size.



Set Clock

When you enter the **Set Clock** utility, the LCD monitor will display the screen shown in figure B30. To maneuver to the portion of the display that requires adjustment, use the **Back/Escape** (left) and **Enter** (right) buttons. Use the **Up/+** and **Down/-** buttons to alter the highlighted value, then press the **Start** button to save the time and date, as displayed on the screen.

To exit the **Set Clock** utility, move the cursor to the position shown in Figure B30 (far left), then press the **Back/Escape** button. Note: The **Start** button moves the cursor to this position after saving the time/date.

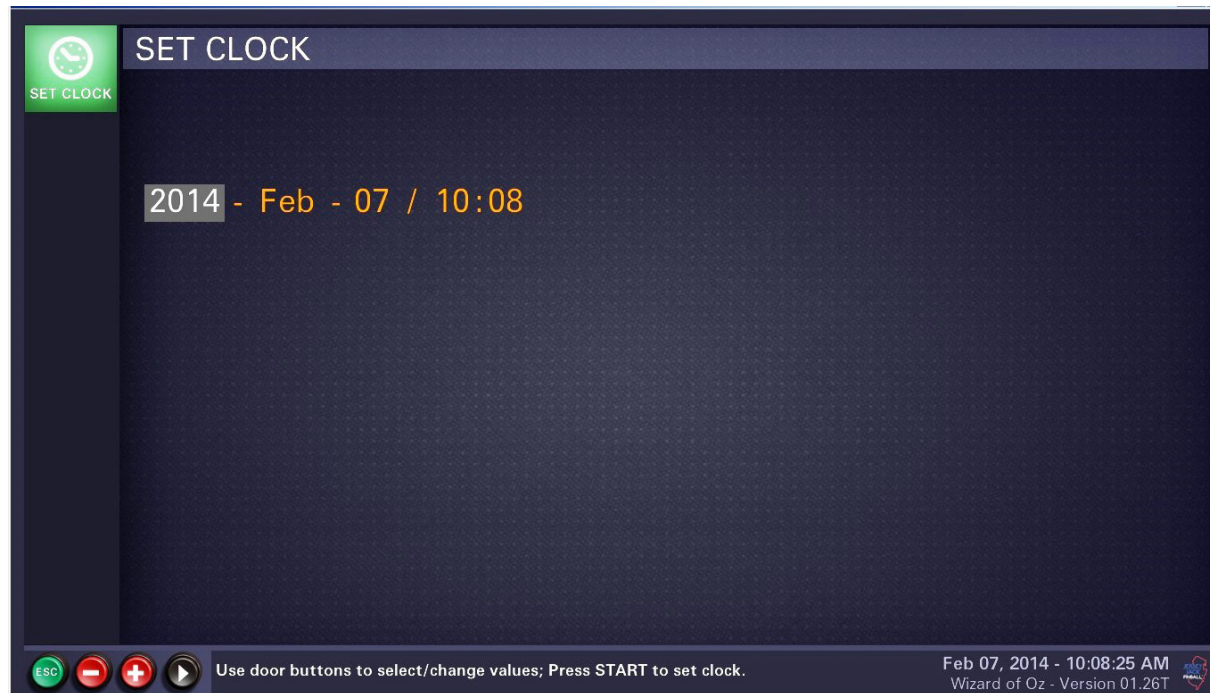


Figure B30. Set Clock utility screen.



Edit Message

Use the **Custom Message** utility to enter a message that will be displayed on the LCD monitor, periodically, during the game’s attract mode. The message is entered or changed using the **Edit Message** utility.

When you enter the **Edit Message** utility, the LCD monitor will display the screen shown in figure B31. To move the cursor around in the message, use the **Back/Escape** (move left) and **Enter** (move right) buttons. Use the **Up/+** and **Down/-** buttons to change the highlighted letter, then press the **Start** button to save your custom message, as displayed on the screen.

To exit the **Edit Message** utility, move the cursor to the position shown in Figure B31 (the upper left hand corner), then press the **Back/Escape** button. Note: The **Start** button moves the cursor to this position after saving the message.

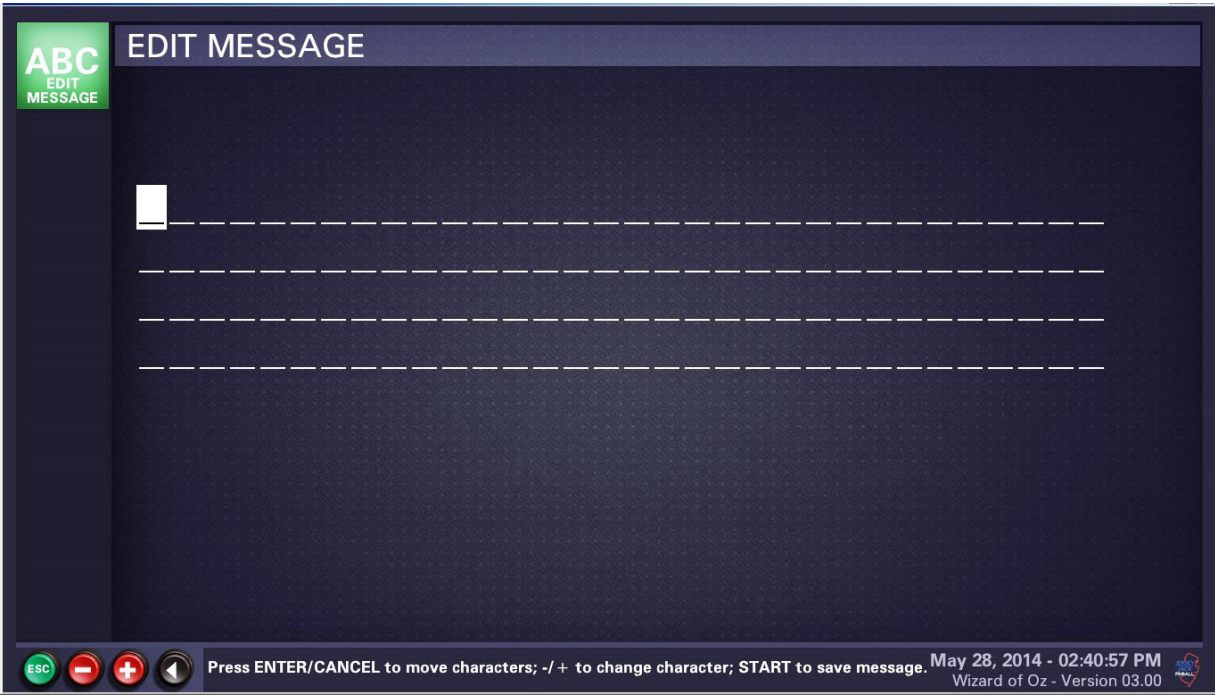


Figure B31. Edit Message utility screen.



Clear Message

Use the **Clear Message** utility to delete a previously entered custom message.

When you enter the **Clear Message** utility, the LCD monitor will display the screen shown in figure B32. To clear the current custom message, press the **Enter** button. You will be prompted to hit the **Start** button to confirm and complete the operation.

To exit the **Clear Message** utility at any time, press the **Back/Escape** button.

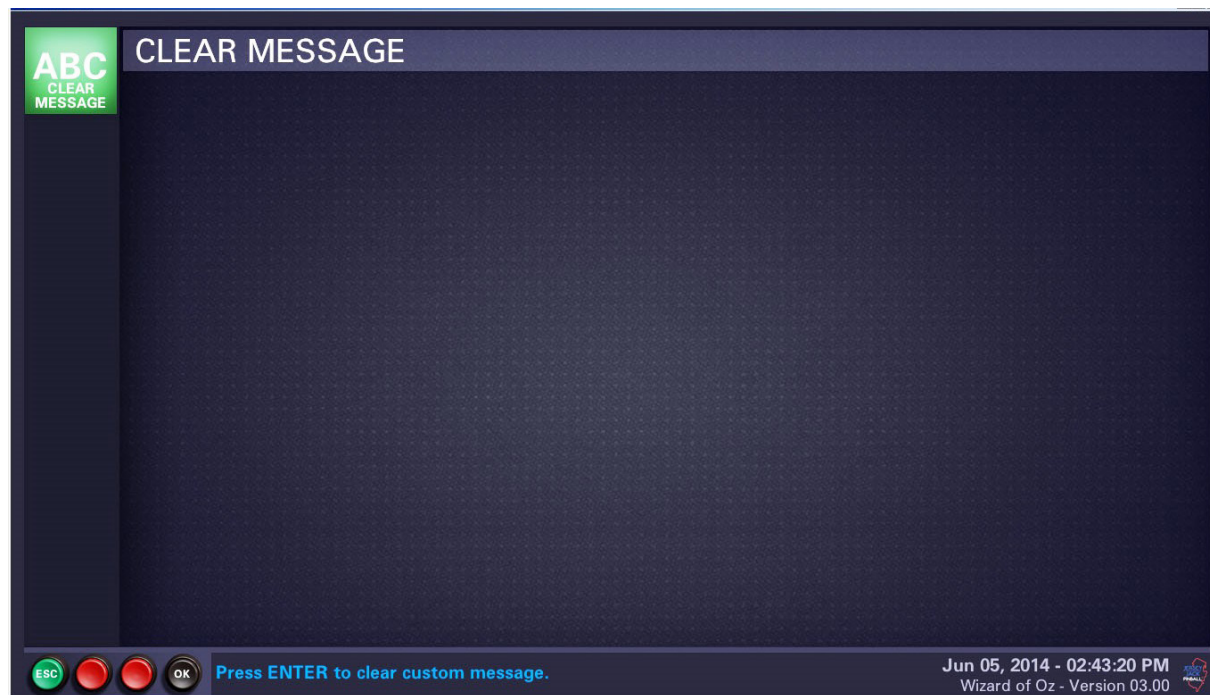


Figure B32. Clear Message utility screen.



Install Graphic

Use the **Custom Graphic** utility to install an image that will be displayed on the LCD monitor, periodically, during the game’s attract mode. The custom image is installed using the **Install Graphic** utility.

Note: The image must be loaded onto a USB memory stick, using a separate computer. It must be in PNG or JPG format and under 2MB in size. Create a folder named “pinballimages” in the root directory of the USB stick, then copy your graphic(s) into the folder. Power up the game, open the coin door, and use the diagnostics buttons to enter the **Install Graphic** utility; the LCD monitor will display the screen shown on the left in figure B33.

Locate the end of the USB extension cable, just inside the open coin door. Fully insert the USB stick into the connector at the end of the cable (if your USB stick is equipped with an “in-use” light, it will illuminate). The screen on the right in figure B33 will come up automatically, showing a listing of the available graphics in your USB stick’s “pinballimages” folder.

Use the **Up/+** and **Down/-** buttons to select the graphic you wish to install, then press the **Enter** button to complete the operation.

To exit the **Install Graphic** utility at any time, press the **Back/Escape** button.

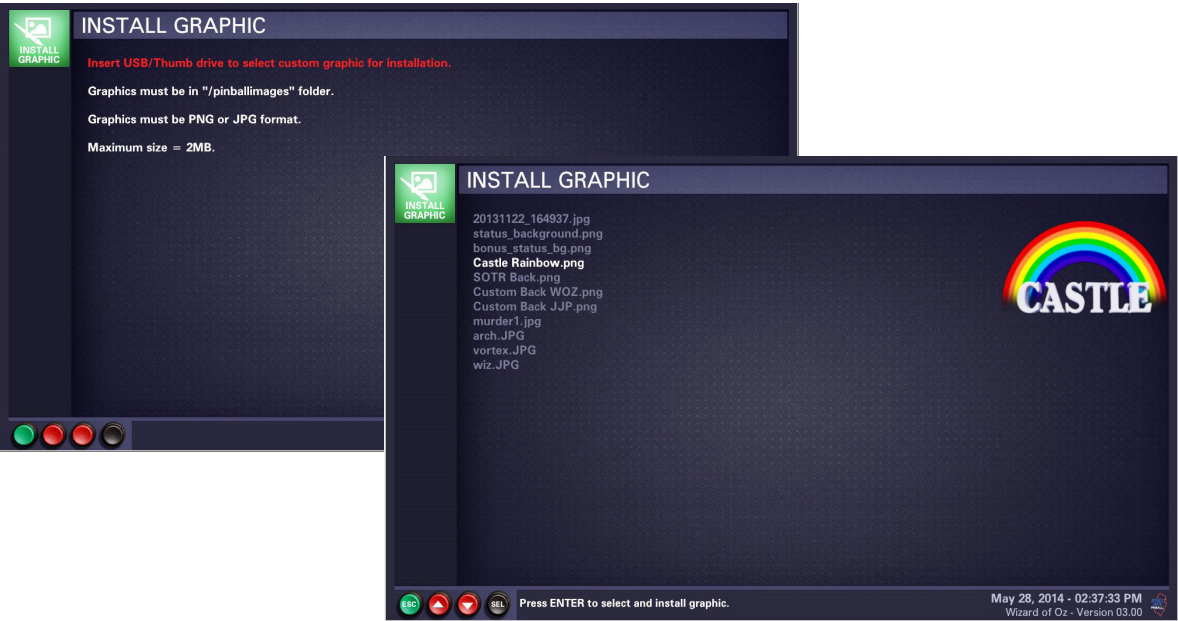
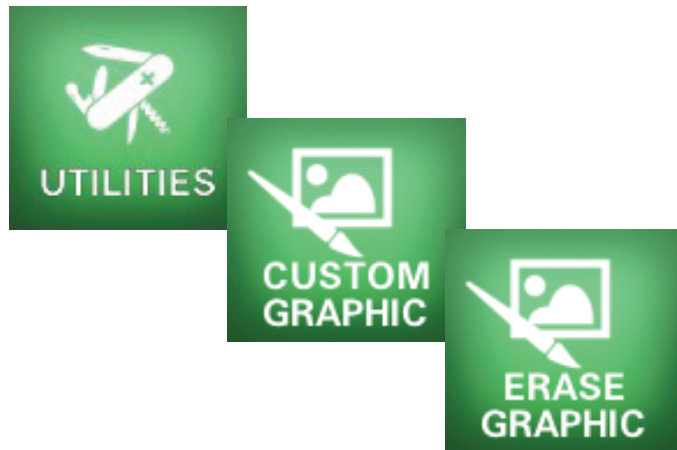


Figure B33. Install Graphic utility screens.



Erase Graphic

Use the **Erase Graphic** utility to delete a previously installed custom graphic.

When you enter the **Erase Graphic** utility, the LCD monitor will display the screen shown in figure B34. To clear the current custom graphic, press the **Enter** button. You will be prompted to hit the **Start** button to confirm and complete the operation.

To exit the **Erase Graphic** utility at any time, press the **Back/Escape** button.

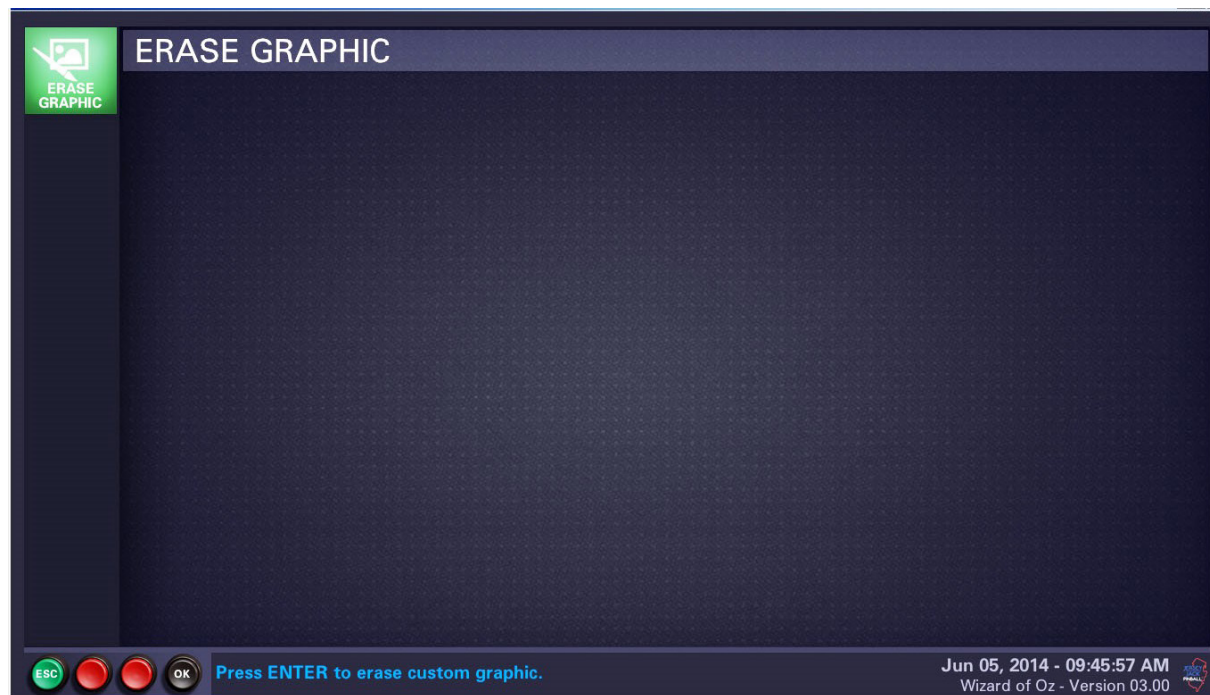
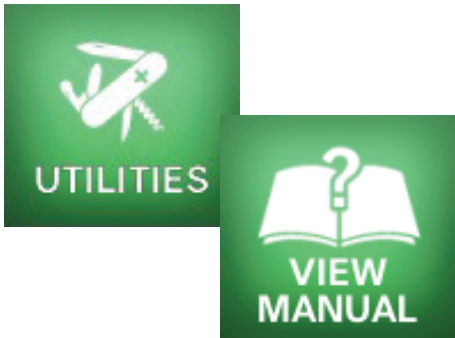


Figure B34. Erase Graphic utility screen.



View Manual

When you enter the **View Manual** utility, the LCD monitor will display the screen shown in figure B35. To view the WOZ Operations Manual (this document), press the **Enter** button. While viewing, use the **Up/+** and **Down/-** buttons to move from page to page; use the **Enter** button to zoom in on the current page. When zoomed in, use the **Up/+** and **Down/-** buttons to move around the current page; use the **Back/Escape** button to cancel the zoom function.

To exit the **View Manual** utility, press the **Back/Escape** button while in the viewing mode.

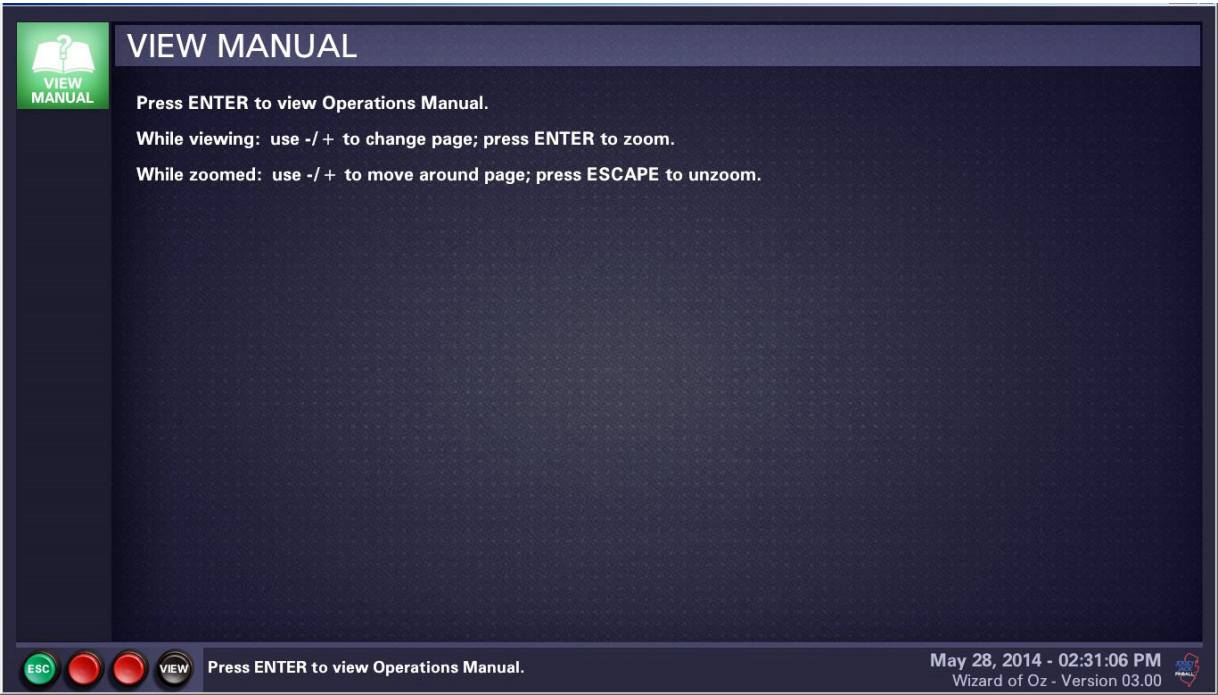


Figure B35. View Manual utility screen.



USB Update

Use the **USB Update** utility to apply a WOZ delta software update to your game. Note: The update must be downloaded from the JJP® support website (<http://www.jerseyjackpinball.com/game-specific-downloads/>), using a separate computer. Copy the “woz update” folder from your computer onto an empty USB memory stick (i.e. it should be the only folder on the stick). Power up the game, open the coin door, and use the diagnostics buttons to enter the **USB Update** utility; the LCD monitor will display the screen shown in figure B36.

Locate the end of the USB extension cable, just inside the open coin door. Fully insert the USB stick into the connector at the end of the cable (if your USB stick is equipped with an “in-use” light, it will illuminate).

To attempt the USB delta update, press the **Enter** button. The game’s playfield and LCD monitor will go blank/dark for approximately 15-30 seconds (depending upon the size of the update). You can abort the update process by pressing the **Back/Escape** button. When the game and monitor come back to life, verify that the delta update installed successfully by re-entering the WOZ Menu System. The installed software version is displayed in the lower, right hand corner of most menu system screens.

When you’re satisfied that the delta update was applied correctly, remove the USB stick from the end of the USB extension cable (there is no need to power down the game before performing this action). To exit the **USB Update** utility, press the **Back/Escape** button.

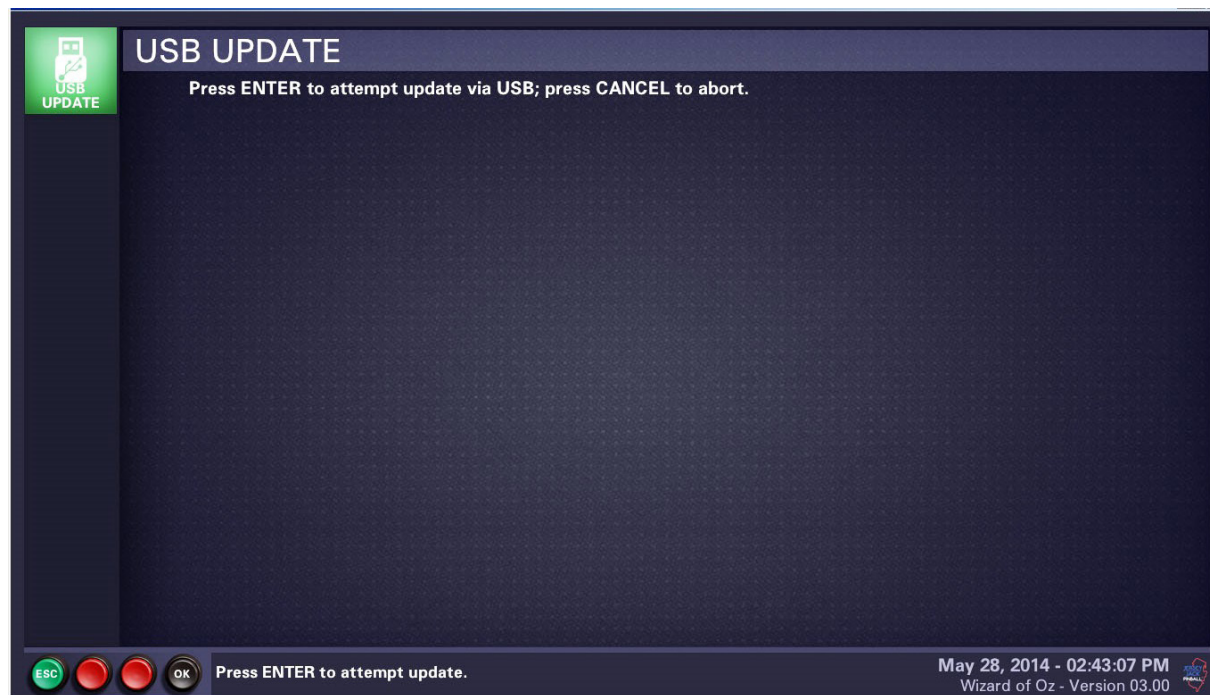


Figure B36. USB Update utility screen.



Settings Backup

The **Settings Backup** & **Settings Restore** utilities allow you to quickly and easily backup & restore your game’s settings, audits, reports, replay information and custom message. Your settings will be stored on a USB memory stick.

When you enter the **Settings Backup** utility, the LCD monitor will display the screen shown in figure B37. Locate the end of the USB extension cable, just inside the open coin door. Fully insert a USB stick into the connector at the end of the cable (if your USB stick is equipped with an “in-use” light, it will illuminate).

Note: The saved settings file is unique to each game (allowing you to use the same USB stick to backup settings for several different games, without fear of overwriting anything). The file is also time- and date-stamped, using the game’s internal clock.

Press the **Enter** button to perform the backup. If there is an existing settings file for the game on the USB stick, you will be prompted to hit the **Start** button to confirm and complete overwriting the backup.

To exit the **Settings Backup** utility, press the **Back/Escape** button.

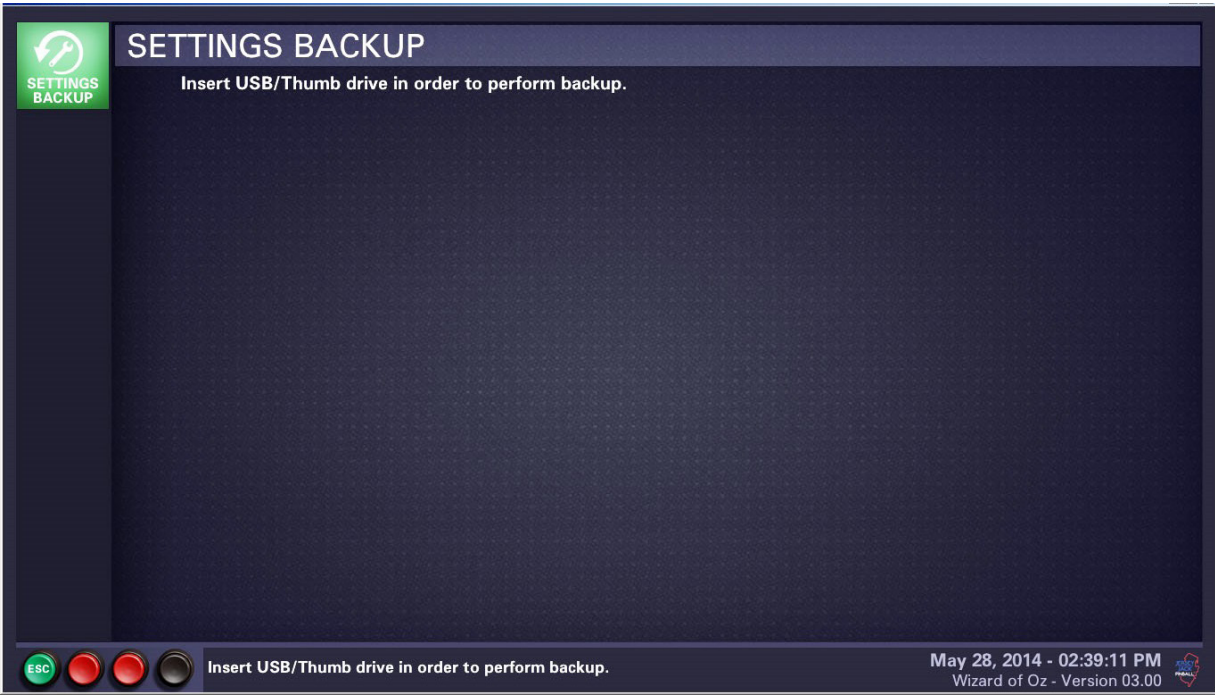


Figure B37. Settings Backup utility screen.



Settings Restore

The **Settings Backup** & **Settings Restore** utilities allow you to quickly and easily backup & restore your game's settings, audits, reports, replay information and custom message. Your settings will be restored from a USB memory stick.

When you enter the **Settings Restore** utility, the LCD monitor will display the screen shown in figure B38. Locate the end of the USB extension cable, just inside the open coin door. Fully insert the USB stick containing your settings file into the connector at the end of the cable (if your USB stick is equipped with an "in-use" light, it will illuminate).

Note: The saved settings file is unique to each game (so you can use the same USB stick to backup settings for several different games, without fear of overwriting anything). The file is also time- and date-stamped, using the game's internal clock.

If a settings file for the game is found on the USB stick, its date and time will be displayed as shown in figure B38. Press the **Enter** button to perform the settings restore operation.

To exit the **Settings Restore** utility, press the **Back/Escape** button.

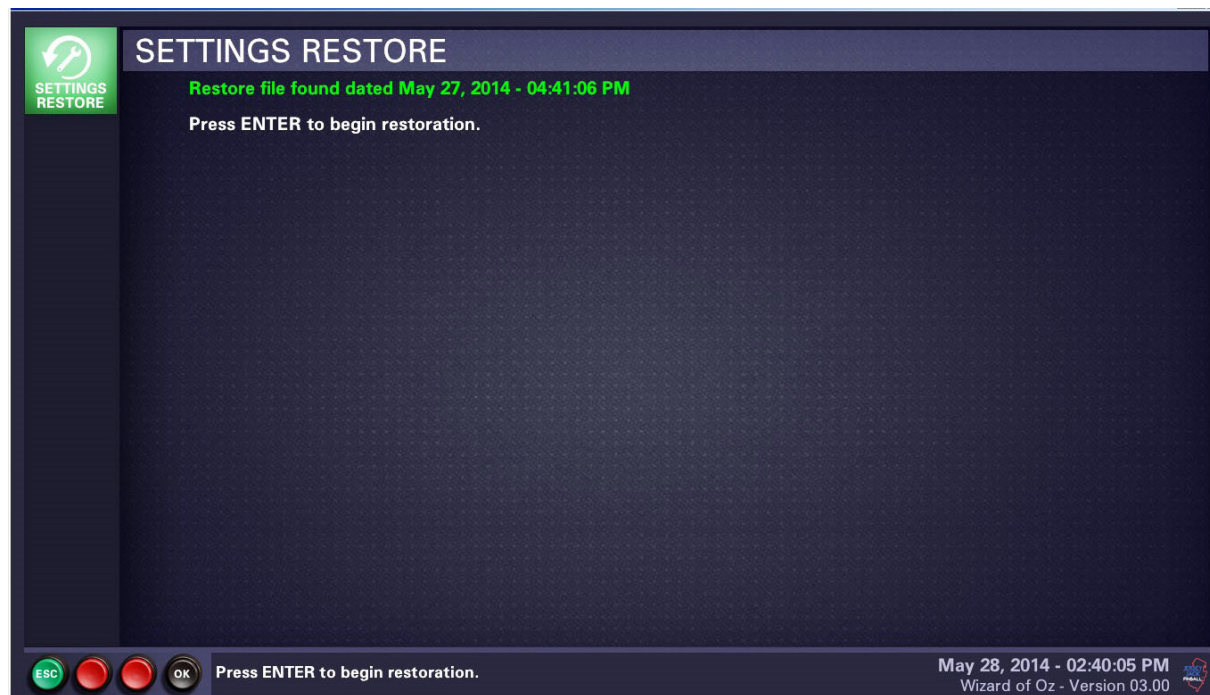


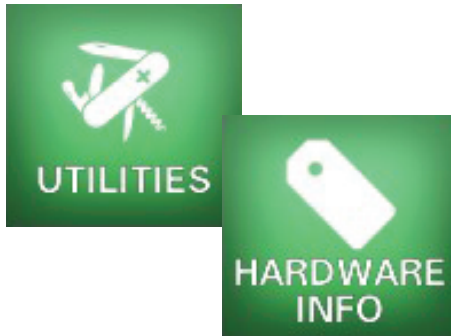
Figure B38. Settings Restore utility screen.



Burn In

The **Burn In** utility allows you to repeatedly exercise/test virtually all of the critical devices in the WOZ game. When you enter the utility, the game will cycle through a preset routine to simultaneously fire coils, activate magnets, run motors, flash colors on the LCD screen, play sounds, etc. - indefinitely.

To exit the **Burn In** utility at any time, press the **Back/Escape** button.



Hardware Info

Use the **Hardware Info** utility to view your game's hardware characteristics such as serial number, firmware revision levels, motherboard type, available RAM, processor speed & solid state disk size. When you enter the **Hardware Info** utility, the LCD monitor will display the screen shown in figure B39.

To exit the **Hardware Info** utility at any time, press the **Back/Escape** button.

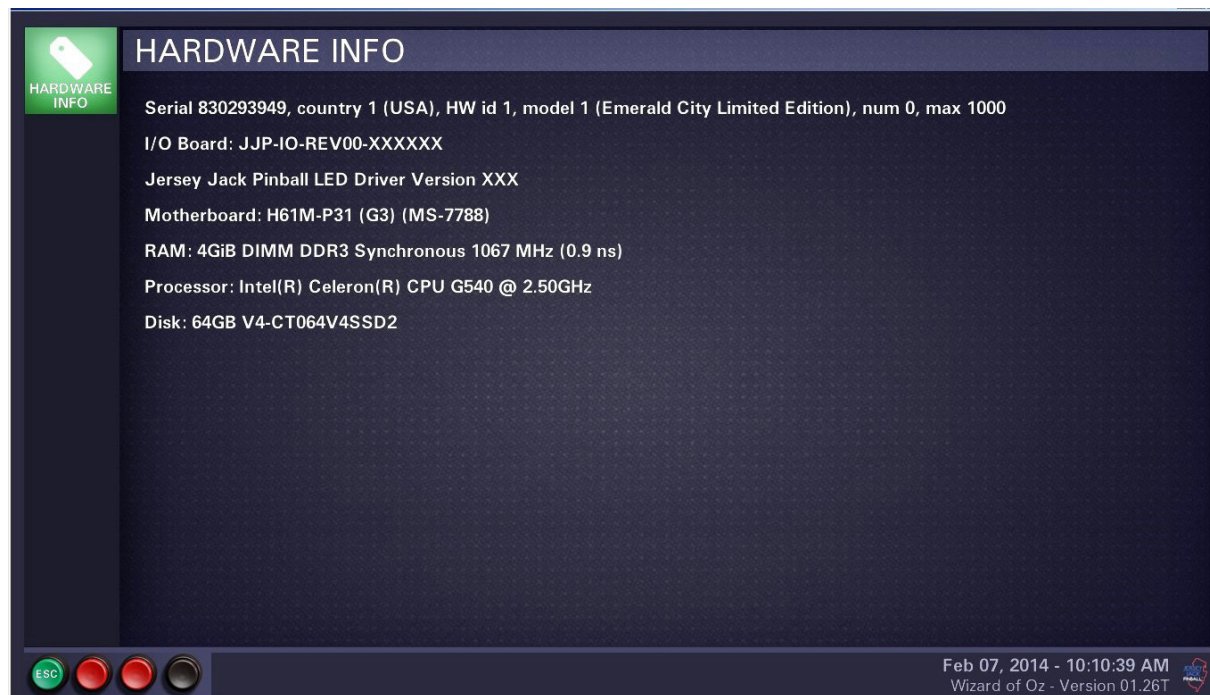


Figure B39. Hardware Info utility screen.

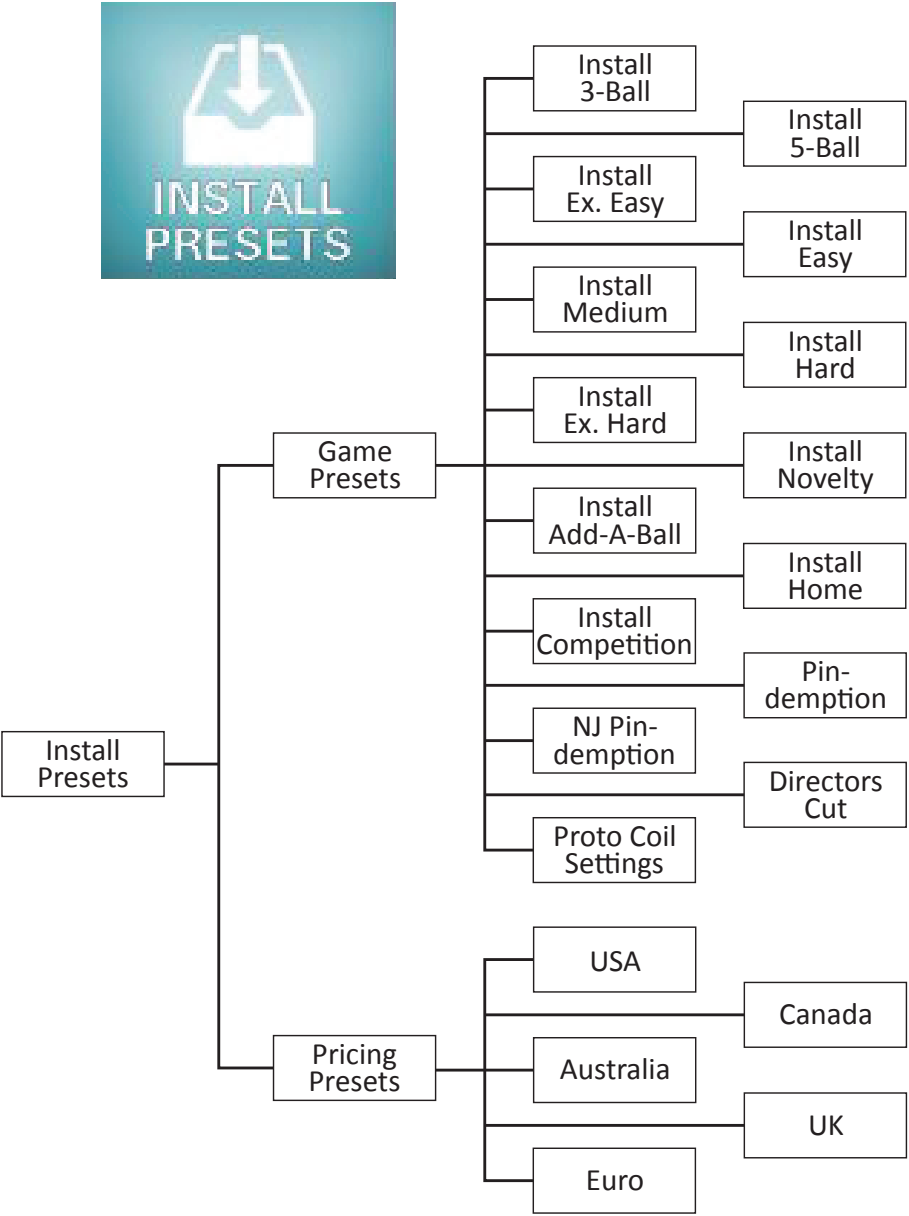


Figure B40. Install Presets menu tree.

B.6 Install Presets

The **Install Presets** menu (see figure B40 for an outline) allows the user to quickly make quantum, predefined changes to game play settings (as opposed to changing settings individually, in other sub-menus).

Game Presets - change a predefined group of game/system settings to quickly configure the game to play in one of the standard modes listed in figure B40.

Pricing Presets - change a predefined group of pricing settings to quickly configure the game to accept coinage from one of the countries listed in figure B40.

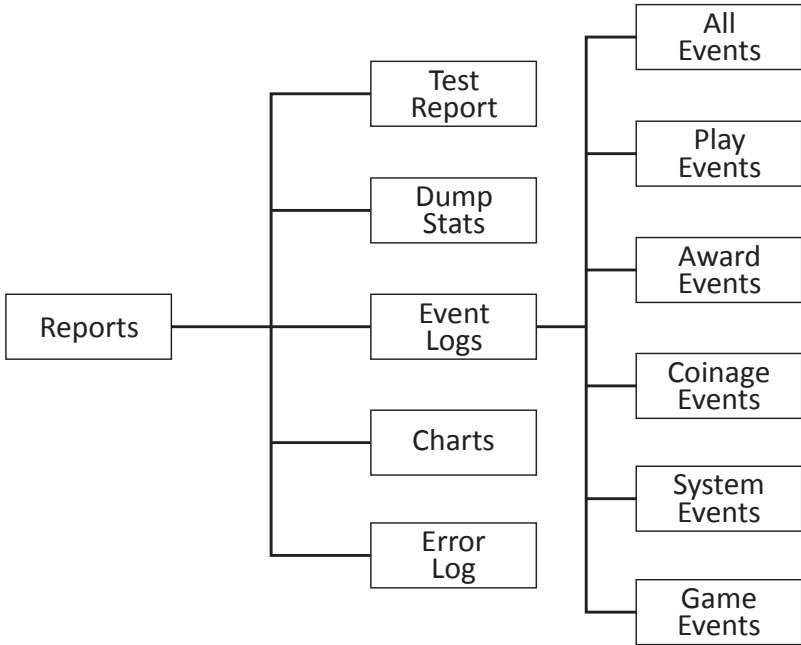


Figure B41. Reports menu tree.

B.7 Reports

The **Reports** menu (see figure B41 for an outline) allows the user to view logs and graphs of events of interest in the game including bad switch alerts, device errors, game power-ups, service credits, game statistics, awards, etc.

Test Report - view results of several game self-tests such as bad switch and device error listings.

Dump Stats - dump game statistics to a USB drive for records or detailed, offline analysis.

Event Logs - view logs for various system events including when the power was cycled on the game, when the game was started, when the coin door was opened, when service credits were added, when game awards were earned, etc.

Charts - view charts of statistics such as games played per day, game times, game scores, etc.

Error Log - view the contents of the game’s error log.

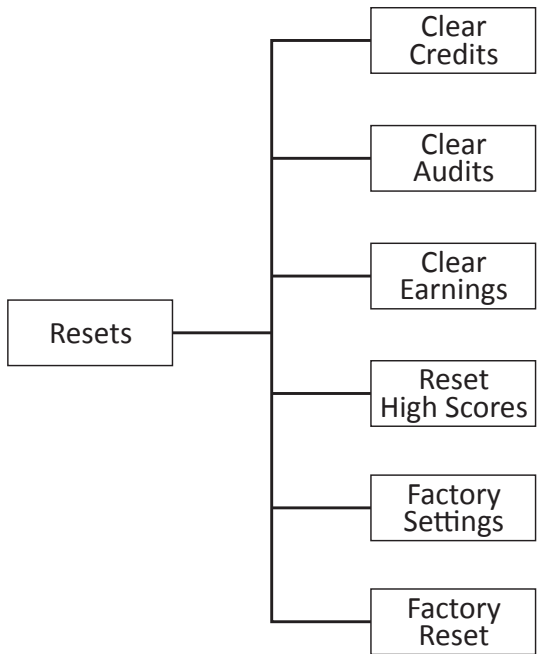


Figure B42. Resets menu tree.

B.8 Resets

The **Resets** menu (see figure B42 for an outline) allows the user to quickly clear game audits/earnings information and high scores from a single menu.

Clear Credits - clear credits from the game.

Clear Audits - reset audits data.

Clear Earnings - reset earnings data.

Reset High Scores - reset high scores to default values (see **High Score Settings** in Section B.3).

Factory Settings - reset all software-adjustable settings to the values they originally were given at the factory.

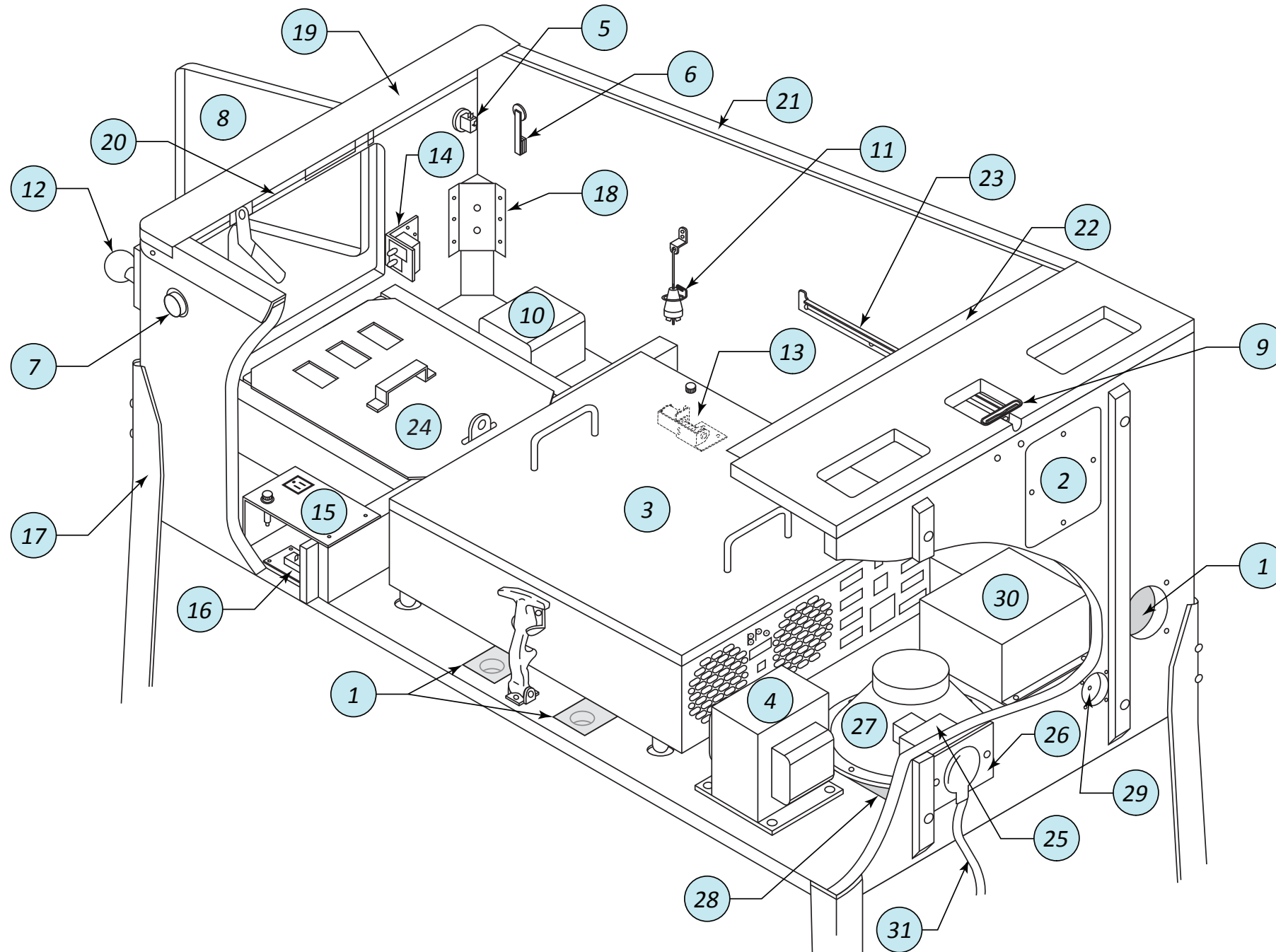
Factory Reset - reset factory settings (as above) plus reset audits and alarm counters.



Section C

Game Parts Information

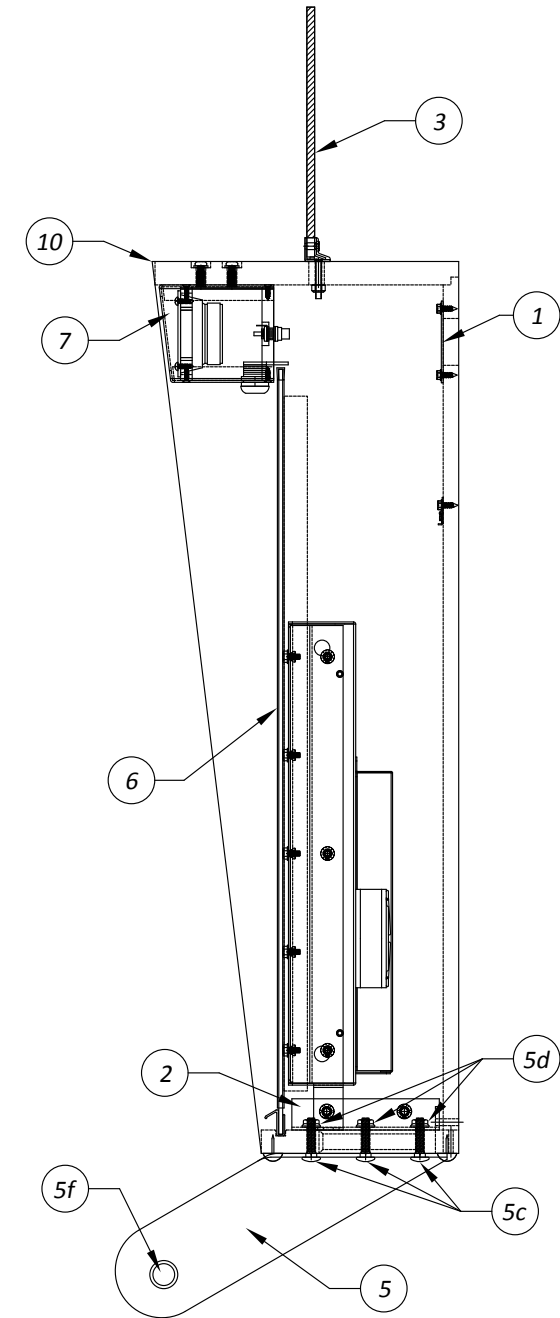
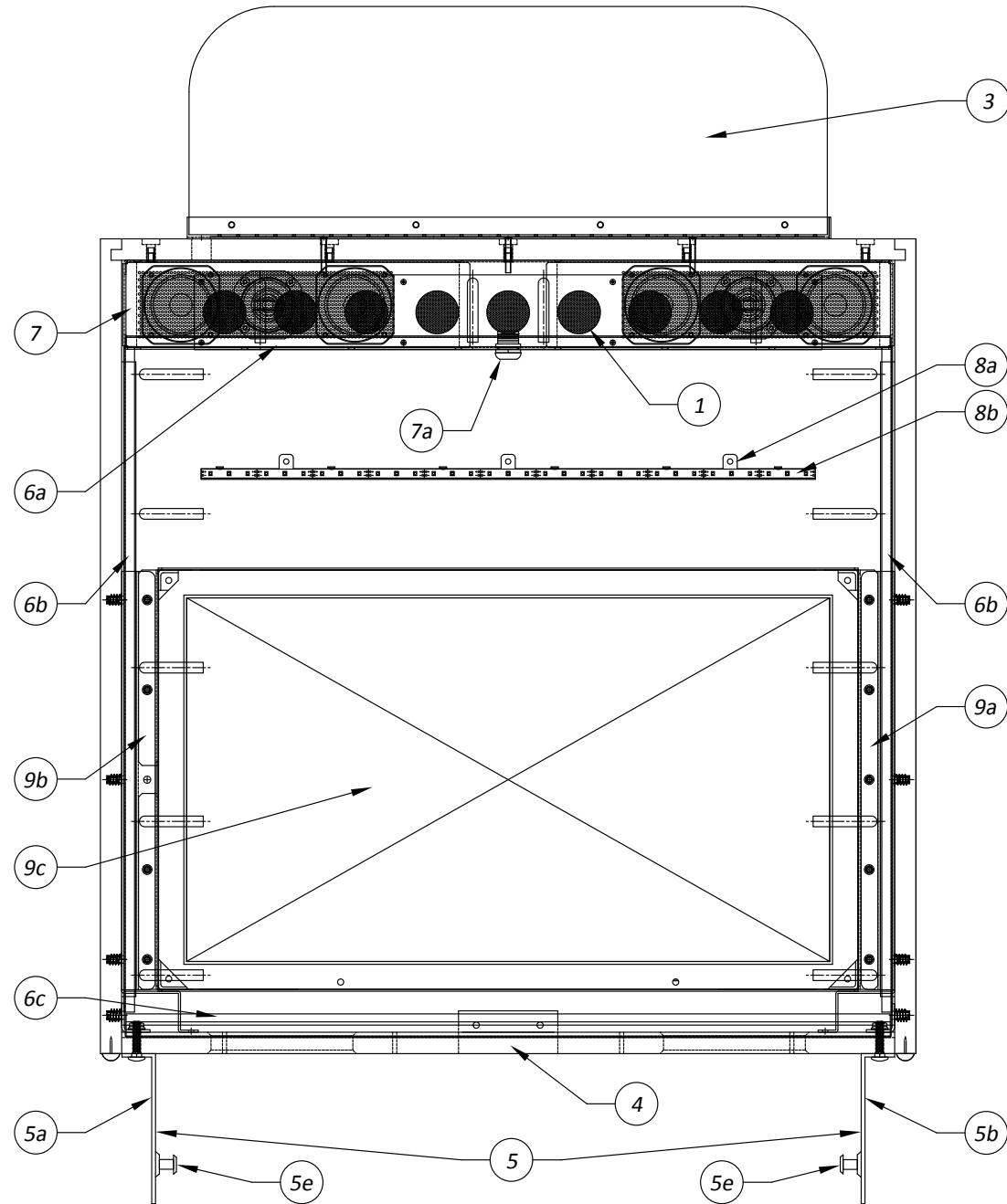




Lower Cabinet Assembly 50-5002-00

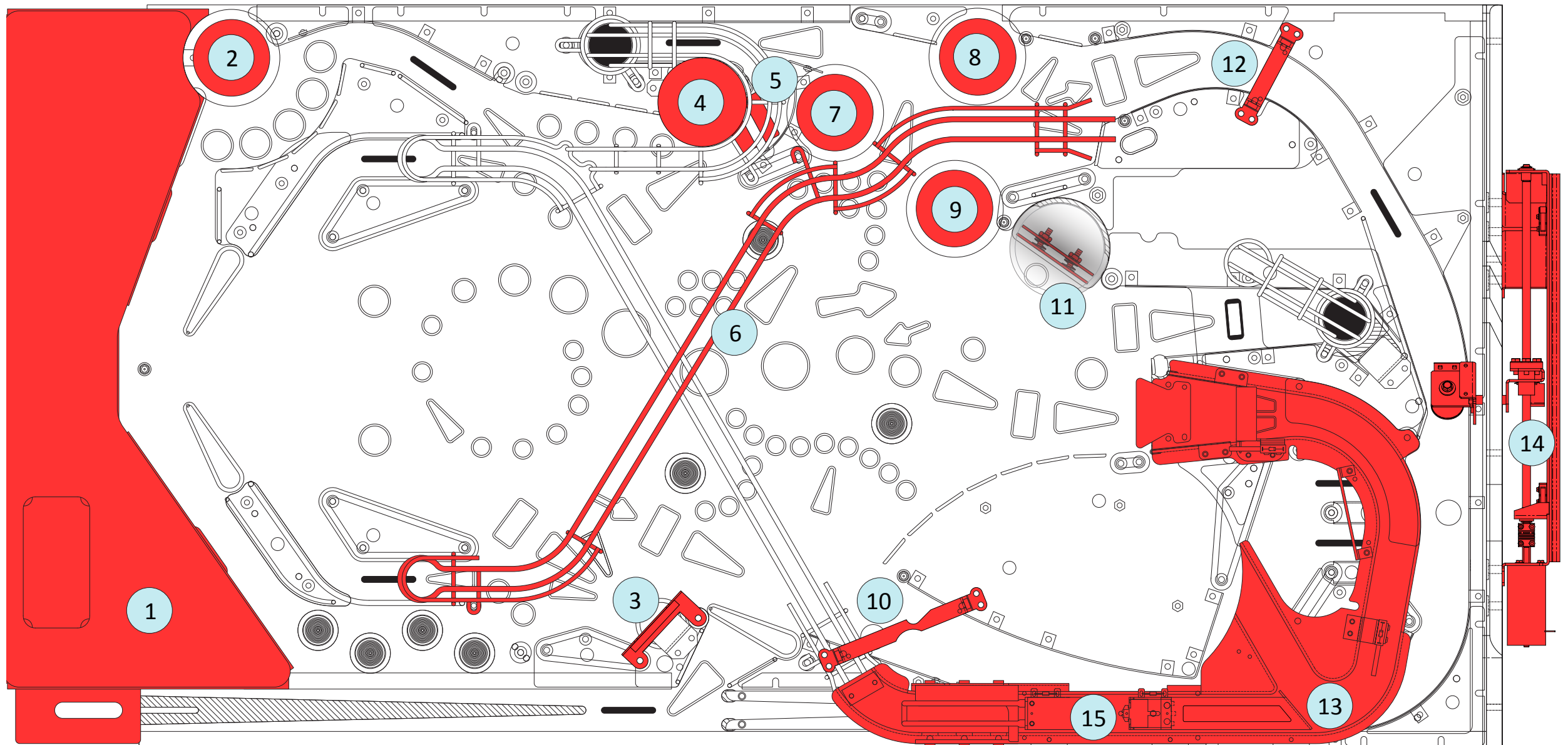
Item	Part Number	Description	Qty	Drawing	Item	Part Number	Description	Qty
1	10-0003-00	Cabinet Vent Hole Cover	3		NS	30-8000-00	Cabinet Side Glass Channel	2
2	10-0007-00	Cabinet Backing Plate	1		NS LE	60-0002-01	Widebody Playfield Invisiglass®	1
3	15-5000-00	Cabinet PCB Chassis Assy (Pre 10/13)	1	C-12	Std	60-0002-00	Widebody Playfield Glass	1
or	15-5000-01	Cabinet PCB Chassis Assy (Post 10/13)	1	C-14	75	60-0002-00	Widebody Playfield Glass	1
4	16-5000-00	Main Transformer, Rev 5 (Pre 10/13)	1		22	30-8001-01	Cabinet Rear Glass Channel, Wide	1
or	16-5000-01	Main Transformer, Rev 6 (Post 10/13)	1		23	10-0033-01	Playfield Support/Slide Brkt, Left	1
5	18-7005-05	Start Button Switch Assy, Green	1		NS	10-0033-00	Playfield Support/Slide Brkt, Right	1
6	18-0005-01	Flipper Switch, Double Contact	2		24	30-0001-00	Pinball Cashbox, Plastic	1
7	30-0009-02	Flipper Button, Red	2			10-0011-00	Cashbox Cover, Universal	1
8	40-0001-00	25¢ USA Coin Door Assy	1		25	51-5023-00	Line Filter Box Assy	1
9	42-5001-00	Roto-Lock Latch	1		26	10-0010-00	Line Cord Cover Plate	1
10	51-5027-01	Shaker Motor Assy	1	C-30	27	17-6002-00	Subwoofer Speaker, 4 Ω	1
11	51-0028-00	Plumb Bob Tilt Assy	1	C-31	28	10-0002-00	Cabinet Speaker Grill, 8"	1
12 LE	51-0031-05WG	Ball Shooter Assy, Emerald Green	1	C-31	29	51-5025-00	Jack In The Back Assy	1
Std	51-0031-00	Ball Shooter Assy, Chrome	1	C-31	30*	16-0000-00	ATX Power Supply	1
75	51-0031-05WR	Ball Shooter Assy, Ruby Red	1	C-31	31	19-9000-00	Line Power Cable, USA	1
13	51-0032-00	Knocker Assy (On Cabinet Floor)	1	C-32	NS Std	61-0001-00	WOZ Cabinet Decal, Left Side	1
14	51-0035-00	Door & Interlock Switch Assy	1		75	61-0001-00	WOZ Cabinet Decal, Left Side	1
15	51-5001-00	Power Box Assy	1	C-34	NS Std	61-0002-00	WOZ Cabinet Decal, Right Side	1
16	18-7012-00	On/Off Switch Assy	1		75	61-0002-00	WOZ Cabinet Decal, Right Side	1
17 LE	10-0001-03	Cabinet Leg Assy, Powder Green	4		NS Std	61-3001-00	WOZ Cabinet Decal, Front	1
Std	10-0001-02	Cabinet Leg Assy, Chrome	4		75	61-3001-00	WOZ Cabinet Decal, Front	1
75	10-0001-04	Cabinet Leg Assy, Powder Red	4		NS	30-0052-04	Nylon Cable Clamp, Closed, 1/4"	1
NS Std	10-0133-00	Cabinet Leg Brkt, Decal Protector	4		NS	30-0049-08	Nylon Cable Clamp, Open, 1/2"	14
75	10-0133-00	Cabinet Leg Brkt, Decal Protector	4		NS	30-0049-12	Nylon Cable Clamp, Open, 3/4"	5
18	10-0006-00	Cabinet Leg Mtg Brkt	4		NS	30-0049-16	Nylon Cable Clamp, Open, 1"	2
19 LE	10-0017-02	Lockdown Bar, Wide, Emerald Green	1		NS*	16-0002-00	5VDC Power Supply (Back of Cabinet)	1
Std	10-0017-03	Lockdown Bar, Wide, Stainless	1		NS*	16-0003-00	24VDC Power Supply (Inside PCB Chassis)	1
75	10-0017-04	Lockdown Bar, Wide, Ruby Red	1					
20	10-0005-00	Lockdown Bar Receiver Assy	1					
21 LE	42-7003-03	Cabinet Side Rail, Powder Green	2					
Std	42-7003-01	Cabinet Side Rail, Stainless	2					
75	42-7003-04	Cabinet Side Rail, Powder Red	2					

* not present in games manufactured after Oct 1, 2013.



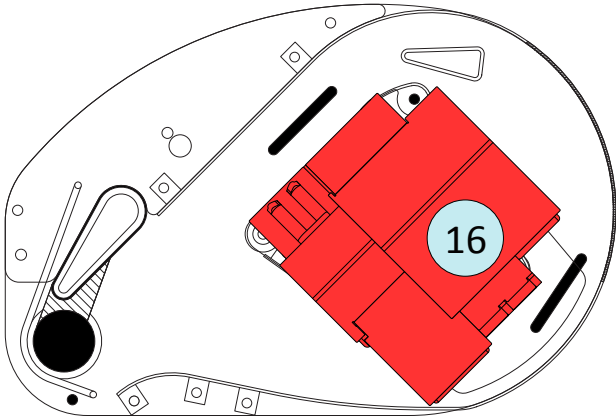
Backbox Assembly 50-5001-00

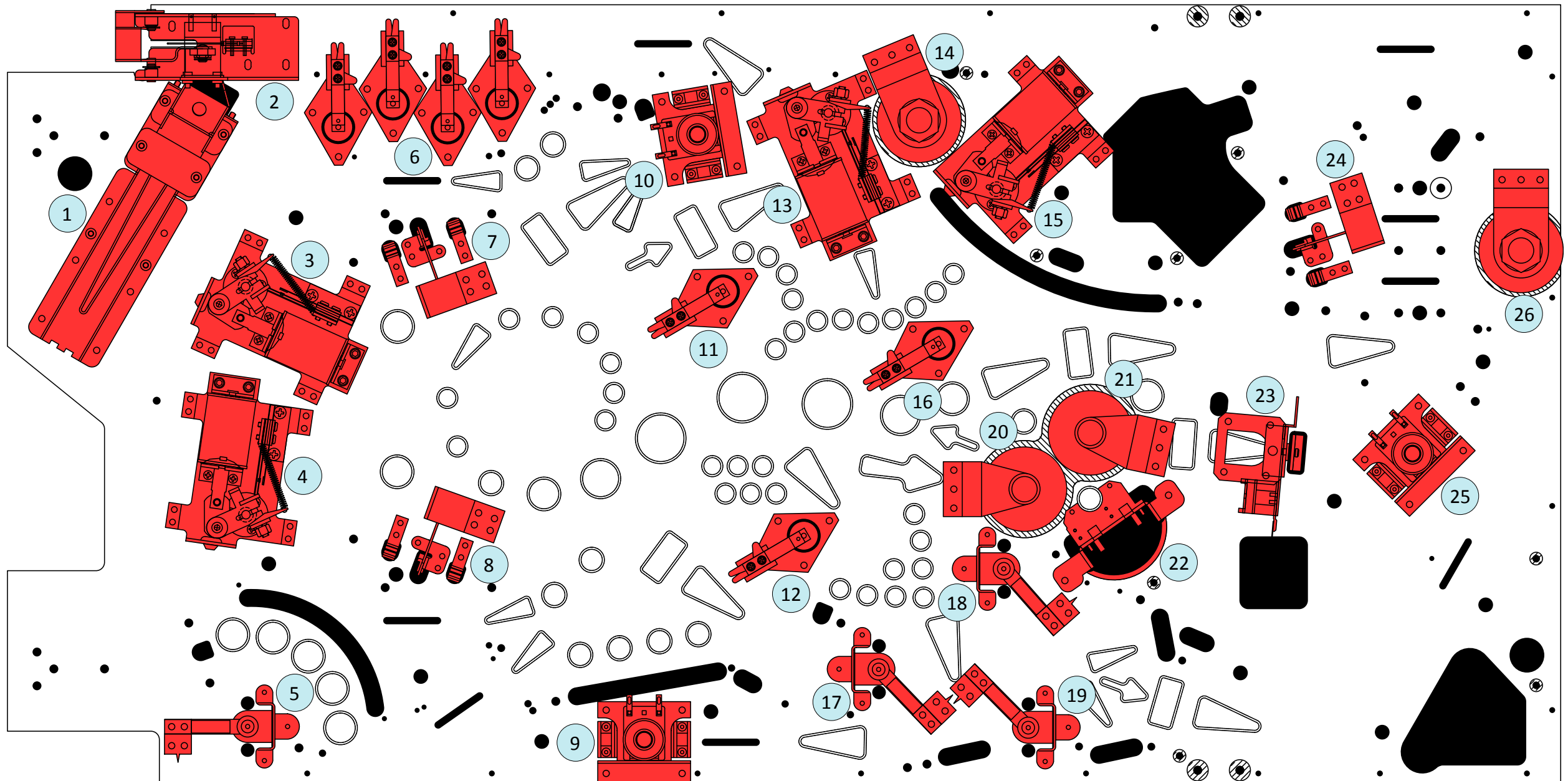
Item	Part Number	Description	Qty	Drawing	Item	Part Number	Description	Qty
1	10-0004-00	Backbox Vent Hole Cover	1		8	51-5011-00	Backbox Light Assy	1
2	10-0034-00	Backbox L Brkt, Lower	2		a)	10-0109-00	Backbox Light Strip Mtg Brkt	1
3	LE 31-5003-01	WOZ Flame Pot Backbox Topper Assy	1	C-18	b)	24-0001-13	LED Strip, Cool White	1
	Std 31-5003-00	WOZ Emerald City Backbox Topper Assy	1	C-18	9	51-5024-00	26" LCD Monitor Assy	1
	75 31-5003-02	WOZ 75 th Anniversary Topper Assy	1	C-18	a)	10-0079-00	26" LCD Mtg Brkt, Right	1
4	42-5002-00	Roto-Lock Receptacle	1		b)	10-0079-01	26" LCD Mtg Brkt, Left	1
5	51-5007-00	Backbox Hinge Brkt Assy	1		c)	17-0000-00	26" LCD Panel, Open Frame	1
a)	LE 42-7001-06	Backbox Right Mtg Hinge, Powder Coat Green	1		or			
	Std 42-7001-00	Backbox Right Mtg Hinge, Black	1		9	51-5032-00	27" LCD Panel Assy	1
	75 42-7001-09	Backbox Right Mtg Hinge, Powder Coat Red	1		a)	10-0137-00	27" LCD Panel Mtg Brkt, Right	2
b)	LE 42-7001-07	Backbox Left Mtg Hinge, Powder Coat Green	1		b)	10-0137-01	27" LCD Panel Mtg Brkt, Left	2
	Std 42-7001-01	Backbox Left Mtg Hinge, Black	1		c)	17-0000-01	27" LCD Panel, Open Frame	1
	75 42-7001-08	Backbox Left Mtg Hinge, Powder Coat Red	1		NS	10-0136-00	27" LCD Panel Retainer Brkt	2
c)	81-5125-20	1/4-20 x 1-1/4" Carriage Bolt, Black	6		NS	05-3005-00	27" LCD Wood Panel	1
d)	91-2025-00	1/4-20 Flange Nut	6		NS	15-5010-00	27" LCD PCB Plate Assy	1
e)	85-3816-00	3/8-16 x 3/4" x 1/2" SH T-Nut Pivot Bushing, Black	2		10	25-3001-00	Backbox Rubber Edge Trim, Black	1
f)	85-3816-12	3/8-16 x 3/4" Hinge Bolt, Short Neck, Black	2		NS	Std 61-6001-00	WOZ Backbox Decal, Left Side	1
6	51-5009-00	Backbox Screened Glass Assy	1			75 61-6001-00	WOZ Backbox Decal, Left Side	1
a)	30-8002-00	Backglass Top Plastic Channel, 26-15/16"	1		NS	Std 61-6002-00	WOZ Backbox Decal, Right Side	1
b)	30-8002-01	Backglass Side Plastic Channel	2			75 61-6002-00	WOZ Backbox Decal, Right Side	1
c)	30-8004-00	Backglass Lift Channel	1		NS	30-0049-08	Nylon Cable Clamp, Open, 1/2"	1
NS	60-0003-00	"Follow The Yellow Brick Road" Printed Backglass	1		NS	30-0049-12	Nylon Cable Clamp, Open, 3/4"	1
	60-0003-01	"There's No Place Like Home" Printed Backglass	1					
	60-0003-02	"We're Off To See The Wizard" Printed Backglass	1					
	75 60-0003-04	WOZ 75 th Anniversary Printed Backglass	1					
7	51-5010-00	Backbox Speaker Bar Assy	1	C-35				
a)	51-5012-00	Backbox Lock Assy	1					



Above-Playfield Assemblies

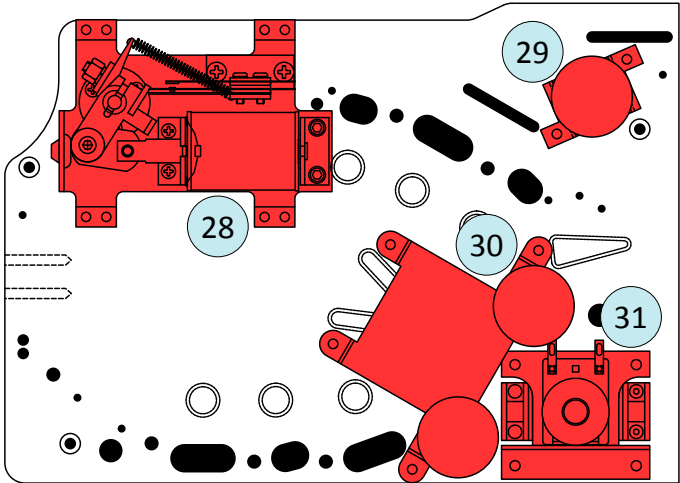
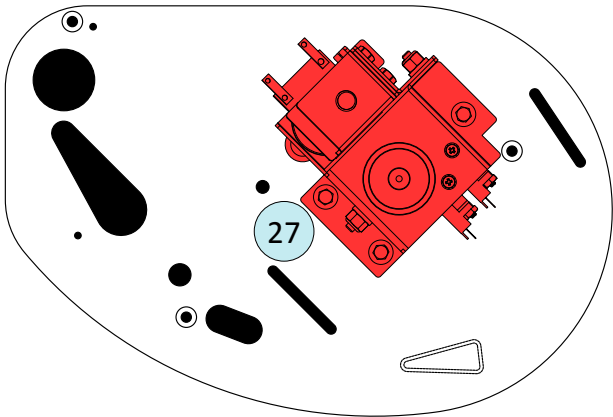
Item	Part Number	Assembly Name	Game Function	Drawing
1	LE 52-0035-00	WOZ Bottom Arch Assembly, Wood	Bottom Arch	C-45
	Std 52-0035-01	WOZ Bottom Arch Assembly, Green	Bottom Arch	C-45
	75 52-0035-02	WOZ Bottom Arch Assembly, Red	Bottom Arch	C-45
2	31-5007-00	Bumper Balloon Assembly	State Fair Balloon Bumper	C-19
	51-0006-00	Pop Bumper Top Assembly		C-24
3	51-0034-00	Playfield Oz Head Assembly	Throne Room Oz Head	C-32
4	52-0006-00	Crystal Ball Assembly	Crystal Ball	C-39
5	18-7002-00	Spinner & Switch Assembly	Crystal Ball Spinner	C-11
6	LE 13-2001-00	Castle Exit Wire Ramp Assembly, Green	Castle Ball Return	C-10
	Std 13-2001-01	Castle Exit Wire Ramp Assembly, Chrome	Castle Ball Return	C-10
	75 13-2001-02	Castle Exit Wire Ramp Assembly, Red	Castle Ball Return	C-10
7	31-5004-00	Center Bumper Tree Assembly	Center Tree Bumper	C-19
	51-0005-00	Jump Bumper Top Assembly		C-24
8	31-5004-01	Left Bumper Tree Assembly	Left Tree Bumper	C-19
	51-0005-00	Jump Bumper Top Assembly		C-24
9	31-5004-02	Right Bumper Tree Assembly	Right Tree Bumper	C-19
	51-0005-00	Jump Bumper Top Assembly		C-24
10	51-0036-01	Playfield Opto Assembly, Large	Right Orbit Enter Switch	C-33
11	52-0031-00	Witch Motor & Shaft Assembly	Melting Witch Figure	C-43
	31-5006-00	Witch Tube Assembly		C-43
	52-0032-00	Witch Front Plate & Switch Assembly	Witch Target	C-44
12	51-0036-00	Playfield Opto Assembly, Small	Left Orbit Enter Switch	C-33
13	31-5001-00	WOZ Emerald City Ramp Assembly	Emerald City Ramp	C-16
14	52-0003-00	Winged Monkey Assembly	Winged Monkey	C-36
15	52-0029-00	3-Ball Lock/Diverter Assembly	Emerald City Multiball Lock	C-42
16	52-0022-00	House Top Assembly	Spinning House	C-40

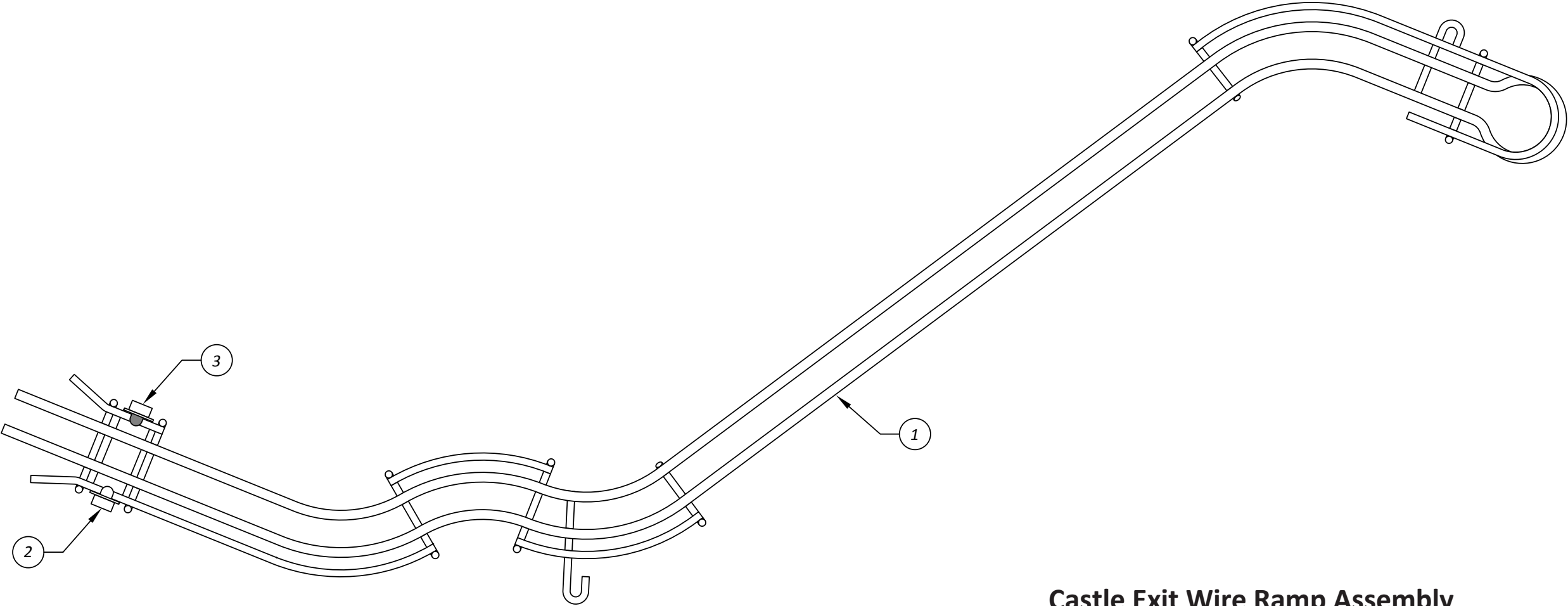




Under-Playfield Assemblies

Item	Part Number	Assembly Name	Game Function	Drawing
1	51-0021-00	5-Ball Trough Assembly	Ball Trough, VUK	C-27
2	51-0026-00	Auto-Launch Assembly	Ball Auto-Launch	C-29
3	51-0001-00	Right Flipper Assembly	Right Flipper	C-20
4	51-0002-00	Left Flipper Assembly	Left Flipper	C-21
5	51-0004-00	Pop Bumper Bottom Assembly	State Fair Balloon Bumper	C-23
6	18-7003-00	4 Rollover Button Switch Assemblies	TOTO Rollover Switches	C-11
7	51-0003-00	Slingshot Assembly	Right Slingshot	C-22
8	51-0003-00	Slingshot Assembly	Left Slingshot	C-22
9	51-0009-00	Vertical Up-Kicker Assembly	Crystal Ball VUK	C-25
10	51-0009-00	Vertical Up-Kicker Assembly	Throne Room VUK	C-25
11	18-7003-00	Rollover Button Switch Assembly	Lion Rollover	C-11
12	18-7003-00	Rollover Button Switch Assembly	Tin Man Rollover	C-11
13	51-0001-00	Right Flipper Assembly	Upper Right Flipper	C-20
14	51-0024-00	Playfield Magnet Assembly, Adjustable Core	Right Orbit Magnet	C-28
15	51-0002-11	Left Flipper Assembly, Mod-UR	Munchkinland Flipper	C-21
16	18-7003-00	Rollover Button Switch Assembly	Scarecrow Rollover	C-11
17	51-0004-00	Pop Bumper Bottom Assembly	Center Tree Bumper	C-23
18	51-0004-00	Pop Bumper Bottom Assembly	Right Tree Bumper	C-23
19	51-0004-00	Pop Bumper Bottom Assembly	Left Tree Bumper	C-23
20	51-0024-01	Playfield Magnet Assembly, Fixed Core	Witch Bottom Magnet	C-28
21	51-0024-01	Playfield Magnet Assembly, Fixed Core	Witch Top Magnet	C-28
22	52-0031-00	Witch Motor & Shaft Assembly	Melting Witch Figure	C-43
23	51-0013-00	1-Bank Drop Target Assembly	Drop Target Reset/Retract	C-26
24	51-0003-00	Slingshot Assembly	Top Lanes Slingshot	C-22
25	51-0009-00	Vertical Up-Kicker Assembly	Winkie Guard VUK	C-25
26	51-0024-00	Playfield Magnet Assembly, Adjustable Core	Top Lanes Magnet	C-28
27	52-0023-00	House Motor & Coil Assembly	Spinning House	C-41
28	51-0001-00	Right Flipper Assembly	Castle Flipper	C-20
29	52-0004-00	Single Door Assembly	Castle Single Door	C-37
30	52-0005-00	Double Door Assembly	Castle Double Doors	C-38
31	51-0009-00	Vertical Up-Kicker Assembly	Castle Double Doors VUK	C-25





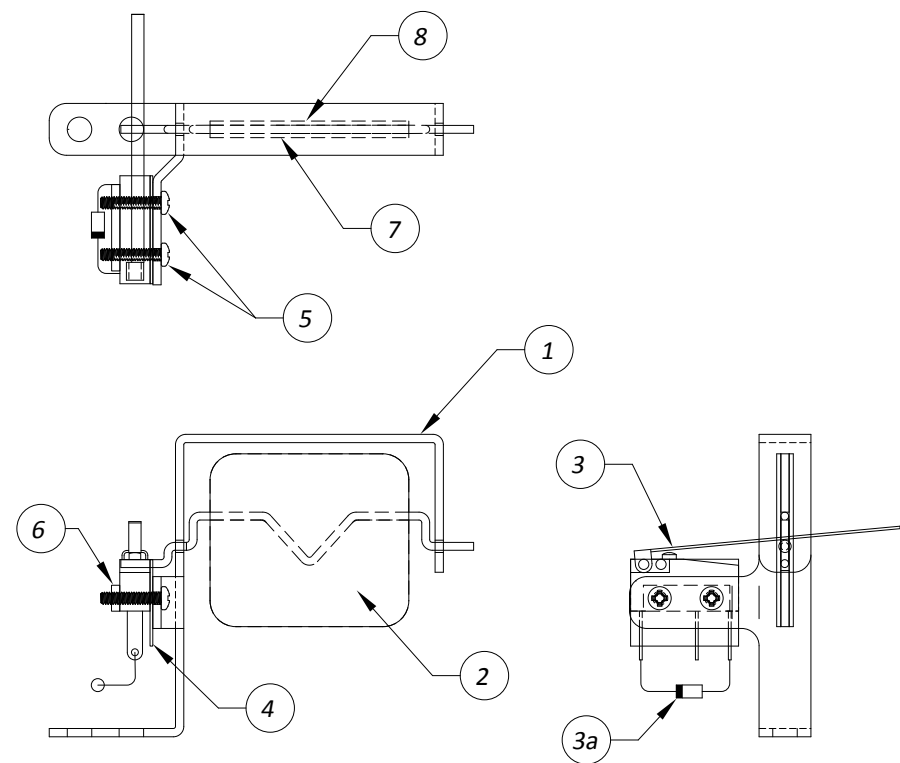
Castle Exit Wire Ramp Assembly
13-2001-00, 13-2001-01, 13-2001-02

Item		Part Number	Description	Qty
1	LE	13-0001-00	Castle Exit Wire Ramp, Emerald Green	1
	Std	13-0001-01	Castle Exit Wire Ramp, Chrome	1
	75	13-0001-02	Castle Exit Wire Ramp, Ruby Red	1
2		18-5001-00	Infrared LED Assy	1
3		18-5001-01	Phototransistor Assy	1

Spinner & Switch Assembly

18-7002-00

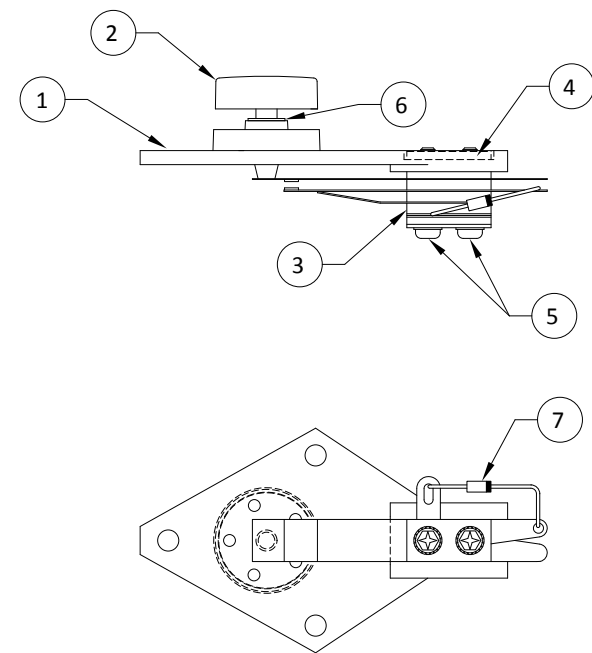
Item	Part Number	Description	Qty
1	10-5013-00	Spinner Mtg Brkt	1
2	10-0068-00	Spinner Tgt Assy	1
3	18-3003-00	Spinner Microswitch & Wireform	1
a)	110-0002-0T	Diode, 1N4004, 400V, 1A	1
4	70-9002-00	Microswitch Insulator, Fish Paper	1
5	80-0002-07	2-56 x 7/16" PPH MS	2
6	10-0024-00	Microswitch Nut Plate, 2-56	1
7	62-0001-03	WOZ Spinner Decal, Front	1
8	62-0001-04	WOZ Spinner Decal, Back	1

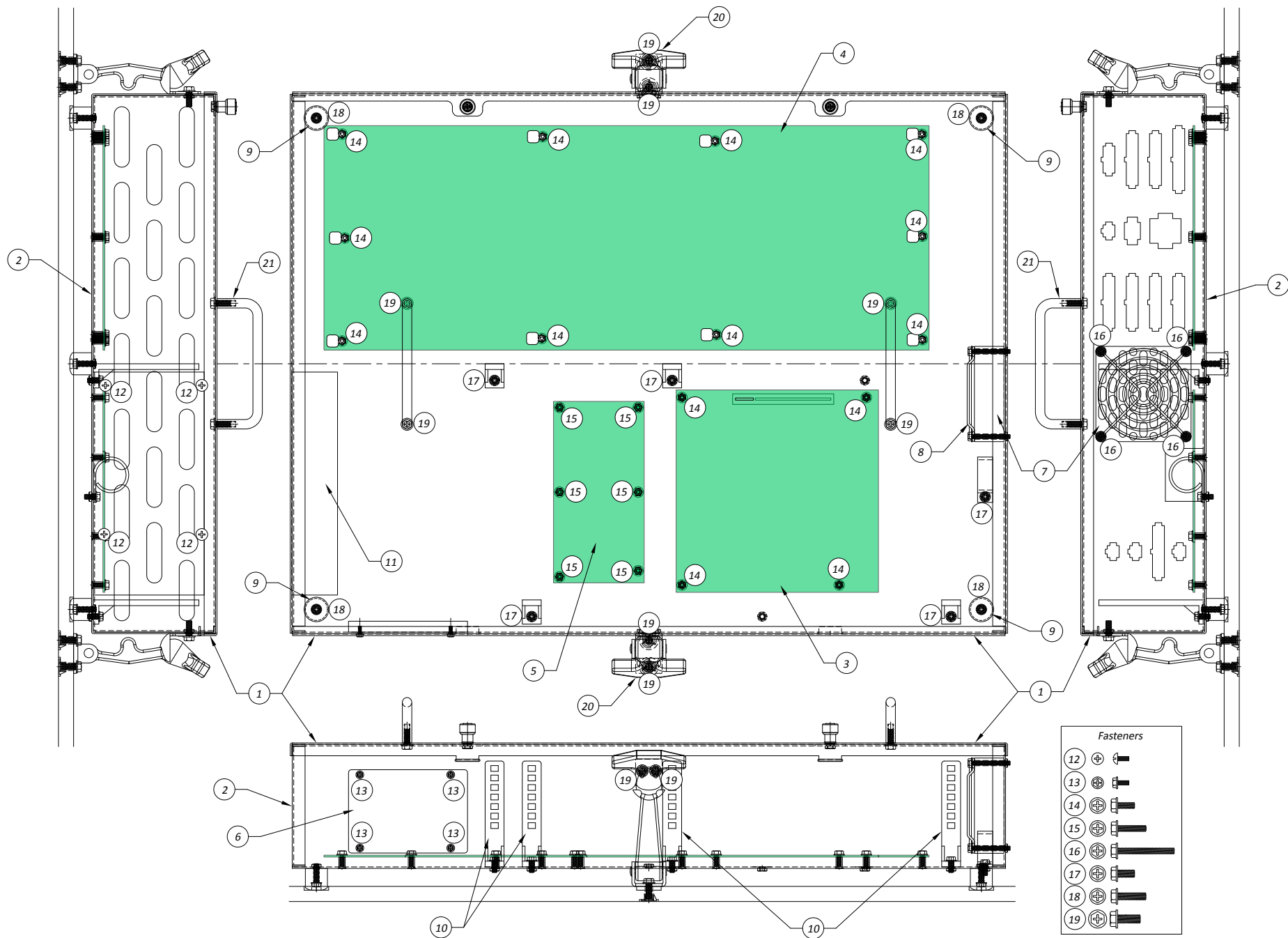


Rollover Button Switch Assembly

18-7003-00

Item	Part Number	Description	Qty
1	30-0010-00	Rollover Base, Clear	1
2	30-0008-13	Rollover Button, Clear	1
3	18-0004-00	Rollover Button Leaf Switch	1
4	10-0024-02	Switch Nut Plate, 5-40	1
5	80-2005-10	5-40 x 5/8" HWH Phillips MS, Serrated	2
6	92-0630-00	Nylon Washer, 0.22" x 0.32" x 0.032"	1
7	110-0002-0T	Diode, 1N4004, 400V, 1A	1



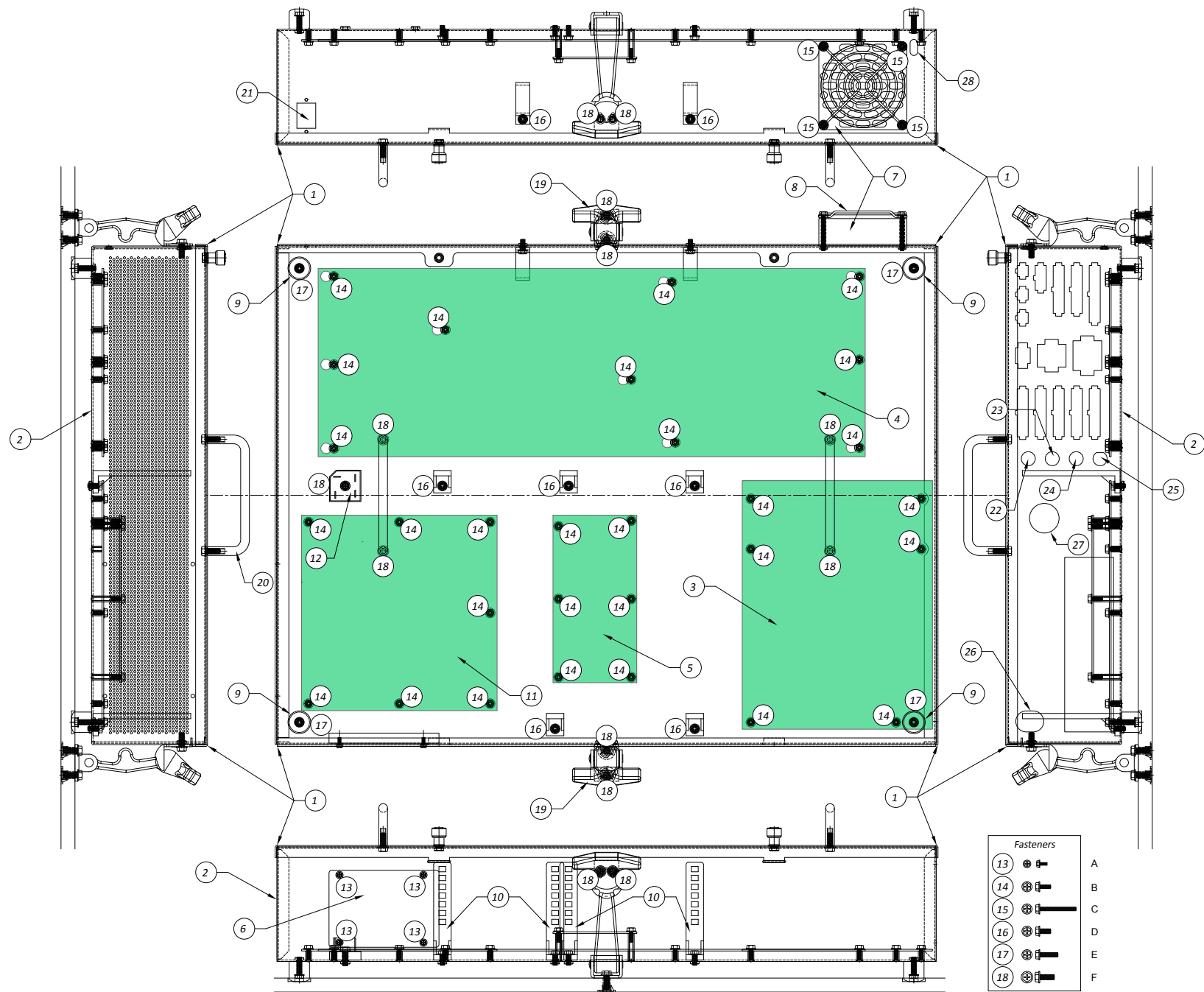


Cabinet PCB Chassis Assembly, Early WOZ

15-5000-00

(games manufactured before Oct 1, 2013)

Item	Part Number	Description	Qty	Drawing	Item	Part Number	Description	Qty
1	10-0030-00	Electronic PCB Chassis Lid	1		12	80-1003-03	M3 x 5mm (3/16") PPH MS, SEMS	4
2	10-5014-00	Electronic PCB Chassis	1		13	80-2104-04	4-40 x 1/4" HWH MS, Black	4
3	15-0000-00	CPU Board	1	D-152	14	80-2006-06	6-32 x 3/8" HWH Phillips MS, Serrated	14
4	15-4001-00	I/O PCB Assy, WOZ	1	D-122	15	80-2006-10	6-32 x 5/8" HWH Phillips MS, Serrated	6
5	15-0002-00	Sound Amplifier Board	1	D-117	16	80-2006-20	6-32 x 1-1/4" HWH Phillips MS, Serrated	4
6	15-0003-00	Solid State Drive	1		17	80-2008-06	8-32 x 3/8" HWH Phillips MS, Serrated	5
7	23-5004-00	Fan, 12VDC Motor, 3.125"	1		18	80-2008-10	8-32 x 5/8" HWH Phillips MS, Serrated	12
8	10-0110-00	Fan Guard, 3.125"	1		19	80-2010-08	10-32 x 1/2" HWH Phillips MS, Serrated	16
9	25-9007-00	PCB Chassis Rubber Foot	4		20	98-0002-00	Rubber Flex Latch	2
10	30-0033-01	Nylon Cable Ladder, 3.5"	4		21	98-0003-00	1-1/2" Metal Handle, 1/4" Rnd, 10-32	2
11	16-0003-00	24VDC Power Supply	1		NS	16-5001-00	Ground Loop Isolator	1

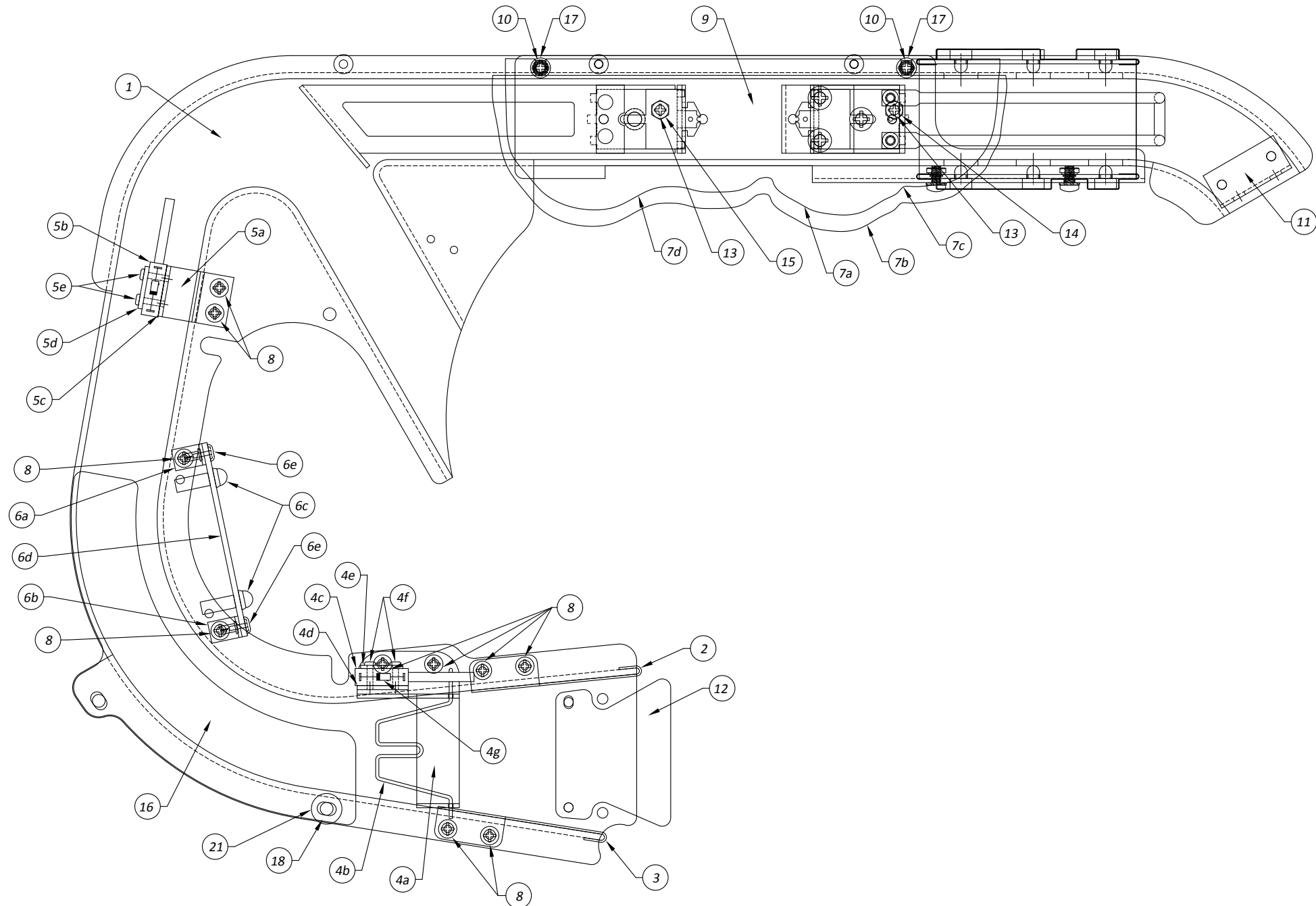


Cabinet PCB Chassis Assembly, WOZ

15-5000-01

(games manufactured on/after Oct 1, 2013)

Item	Part Number	Description	Qty	Drawing	Item	Part Number	Description	Qty
1	10-0030-00	Electronic PCB Chassis Lid	1		15	80-2006-20	6-32 x 1-1/4" HWH Phillips MS, Serrated	4
2	10-5014-00	Electronic PCB Chassis	1		16	80-2008-06	8-32 x 3/8" HWH Phillips MS, Serrated	7
3	15-0000-00	CPU Board	1	D-152	17	80-2008-10	8-32 x 5/8" HWH Phillips MS, Serrated	4
4	15-4001-00	I/O PCB Assy, WOZ	1	D-122	18	80-2010-08	10-32 x 1/2" HWH Phillips MS, Serrated	13
5	15-0002-00	Sound Amplifier Board	1	D-117	19	98-0002-00	Rubber Flex Latch	2
6	15-0003-00	Solid State Drive	1		20	98-0003-00	1-1/2" Metal Handle, 1/4" Round, 10-32	2
7	23-5004-00	Fan, 12VDC Motor, 3.125"	1		21	22-8005-00	RJ45 Coupler, F-F	1
8	10-0110-00	Fan Guard, 3.125"	1		22	22-8004-04	RCA Bulkhead Jack, Yellow, F-F	1
9	25-9007-00	RichCo Rubber Mtg Foot	4		23	22-8004-09	RCA Bulkhead Jack, White, F-F	1
10	30-0033-01	Nylon Cable Ladder, 3.5"	4		24	22-8004-02	RCA Bulkhead Jack, Red, F-F	1
11	15-0015-00	Unified Power Source Board	1	D-142	25	22-8003-00	3.5mm Bulkhead Jack, F-F	1
12	150-0000-00	Bridge Rectifier, Terminal Leads, 200V, 25A	1		26	25-9010-00	PCB Chassis CPU Grommet, Left	1
13	80-2104-04	4-40 x 1/4" HWH MS, Black	4		27	25-9013-00	PCB Chassis CPU Grommet, Right	1
14	80-2006-06	6-32 x 3/8" HWH Phillips MS, Serrated	29		28	25-9011-00	PCB Chassis Fan Grommet	1
					NS	16-5001-00	Ground Loop Isolator	1

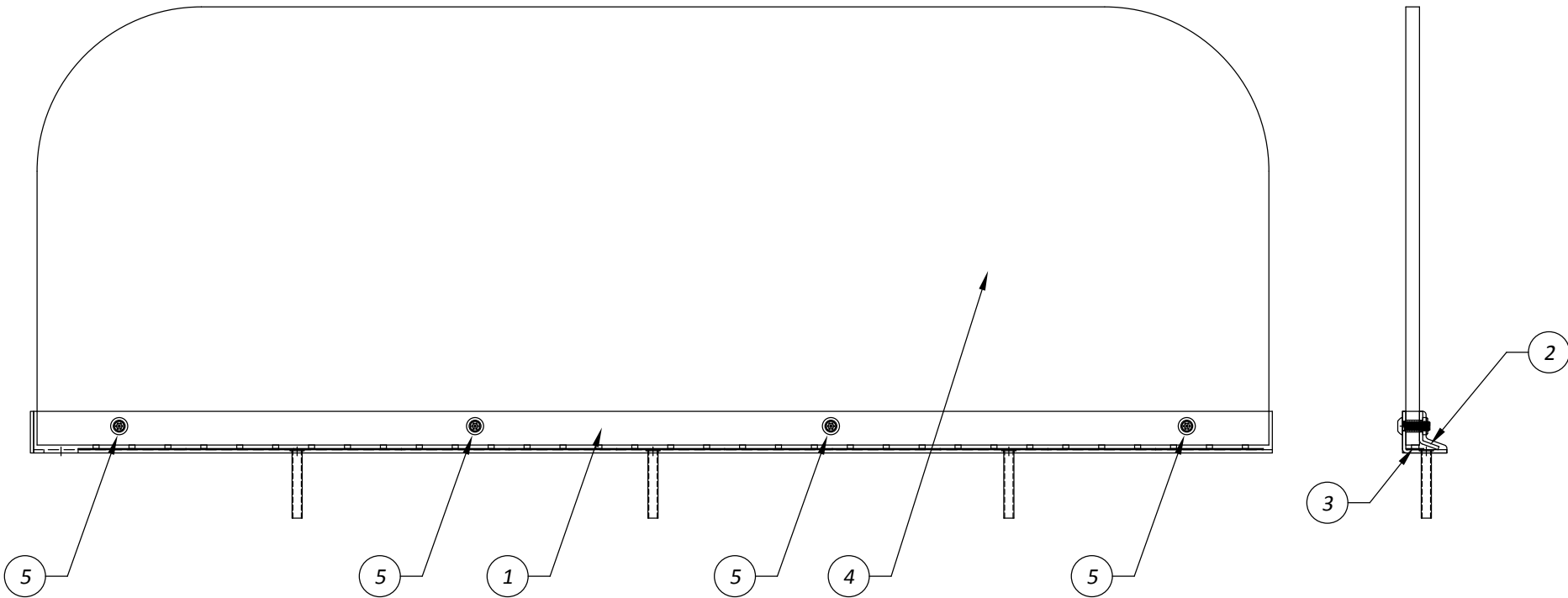


WOZ Emerald City Ramp Assembly 31-5001-00

Item	Part Number	Description	Qty	Item	Part Number	Description	Qty
1	31-0001-00	WOZ Plastic Ramp	1	7	31-5005-00	WOZ Munchkin Hut Assy	1
2	10-0062-00	WOZ Ramp Edge Protector, Right	1	a)	32-0003-00	Munchkin Hut Base Molded Plastic	1
3	10-0062-01	WOZ Ramp Edge Protector, Left	1	b)	32-0003-01	Munchkin Hut Roof Molded Plastic	1
4	18-7013-00	Ramp Rollunder Gate Assy	1	c)	62-0001-22	WOZ Munchkin Hut Large Decal	1
a)	10-0103-00	Ramp Rollunder Switch Brkt	1	d)	62-0001-23	WOZ Munchkin Hut Small Decal	1
b)	13-3011-00	Ramp Rollunder Gate	1	8	83-0006-06	#6 x 3/8" PPH MS, Type 25, Thread Cutter	10
c)	18-3011-00	Ramp Entrance Microswitch & Wireform	1	9	52-0029-00	3-Ball Lock/Diverter Assy (drawing C-42)	1
d)	70-9002-00	Microswitch Insulator, Fish Paper	1	10	94-0408-32	1/4" x 2" Hex Spacer, F-F, 8-32, Black	2
e)	10-0024-01	Microswitch Protector Plate, #2	1	11	10-0065-00	WOZ Ramp Exit Brkt	1
f)	80-2102-08	2-56 x 1/2" HWH MS, Black	2	12	11-6000-00	WOZ Ramp Flap	1
g)	110-0002-0T	Diode, 1N4004, 400V, 1A	1	13	80-6106-06	6-32 x 3/8" PFH MS, w/Undercut, Black	4
5	18-7014-00	Ramp Made Switch Assy	1	14	94-0406-08	1/4" x 1/2" Hex Spacer, F-F, 6-32, Black	1
a)	10-0104-00	Ramp Made Switch Brkt	1	15	94-0406-10	1/4" x 5/8" Hex Spacer, F-F, 6-32, Black	1
b)	18-3010-00	One-Way Ramp Microswitch & Wireform	1	16	30-3000-23	WOZ Clear Ramp Protector Plastic	1
c)	70-9002-00	Microswitch Insulator, Fish Paper	1	17	80-1008-04	8-32 x 1/4" PPH MS	2
d)	10-0024-01	Microswitch Protector Plate, #2	1	18	25-6003-03-0	3/16" OD Mini Post Rubber, Black	1
e)	80-2102-08	2-56 x 1/2" HWH MS, Black	2				
f)	110-0002-0T	Diode, 1N4004, 400V, 1A	1				
6	51-5028-00	WOZ Top Lanes Sign Assy	1				
a)	10-0039-00	WOZ Top Lanes Sign Short Mtg Brkt	1				
b)	10-0039-01	WOZ Top Lanes Sign Long Mtg Brkt	1				
c)	24-0005-05	Individual Panel Mount LED, Green	2				
d)	30-3000-29	WOZ Top Lanes Sign Plastic	1				
e)	30-0041-01	Push Rivet, Click-Lock, 0.118-0.158"	2				

WOZ Emerald City, Flame Pot, & 75th Anniversary Backbox Topper Assemblies
31-5003-01, 31-5003-00, 31-5003-02

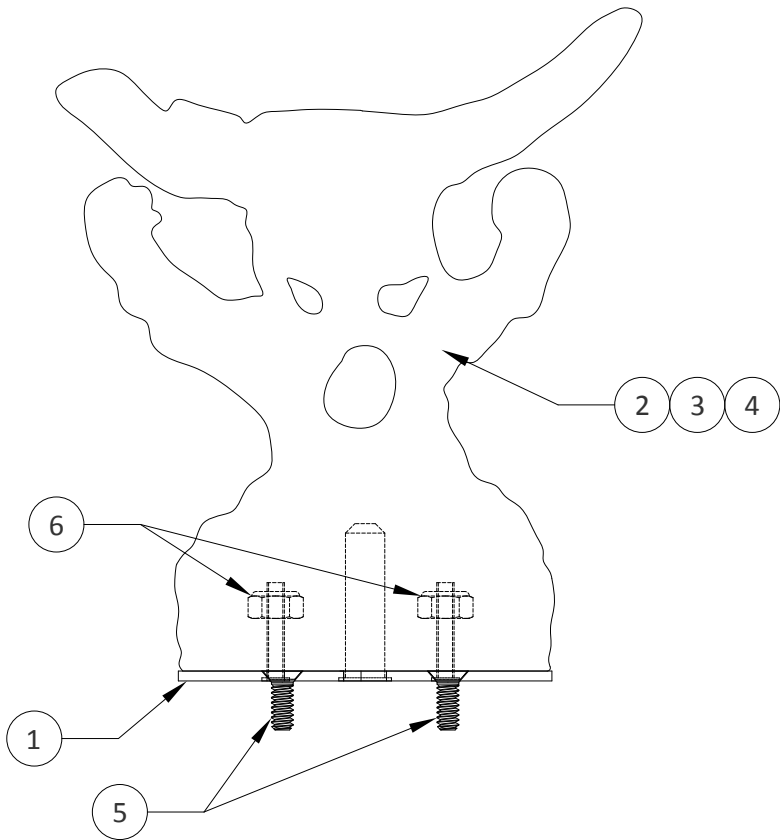
Item	Part Number	Description	Qty
1	10-0106-00	Topper Mtg Brkt	1
2	10-0107-00	Topper Retaining Brkt	1
3 LE	24-5000-01	Flame Pot Topper LED Strip Assy	1
Std	24-5000-00	Emerald City Topper LED Strip Assy	1
75	24-5000-02	75 th Anniversary Topper LED Strip Assy	1
4 LE	30-0037-01	WOZ Flame Pot Backbox Topper Plastic, Lasered	1
Std	30-0037-00	WOZ Emerald City Backbox Topper Plastic, Lasered	1
75	30-0037-02	WOZ 75 th Anniversary Backbox Topper	1
5	80-8108-08	8-32 x 1/2" TP Torx MS, Black	4



Bumper Tree Assemblies

31-5004-00, 31-5004-01, 31-5004-02

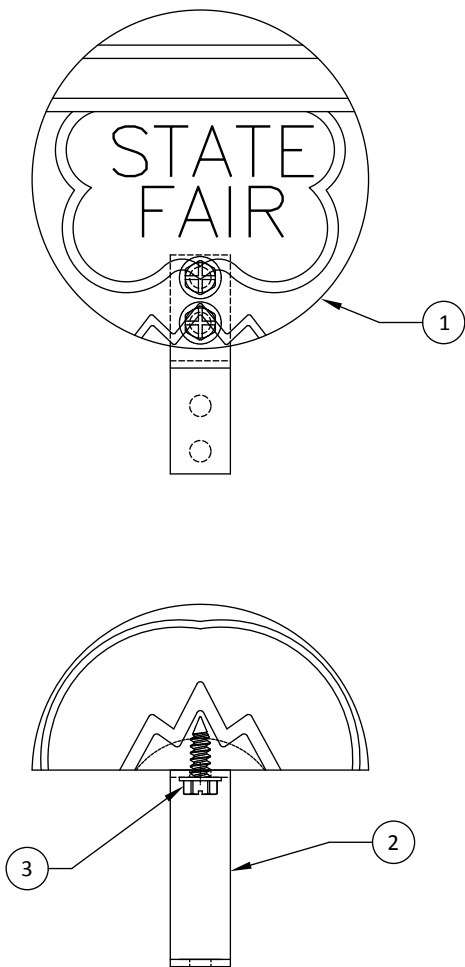
Item	Part Number	Description	Qty
1	10-0035-00	Tree Jump Bumper Mtg Plate	1
2	32-0007-00	WOZ Tree Center Bumper Figure	1
3	32-0007-01	WOZ Tree Left Bumper Figure	1
4	32-0007-02	WOZ Tree Right Bumper Figure	1
5	80-6106-06	6-32 x 3/8" PFH MS, w/Undercut, Black	2
6	91-0104-00	4-40 Nylon Stop Nut, Black	2



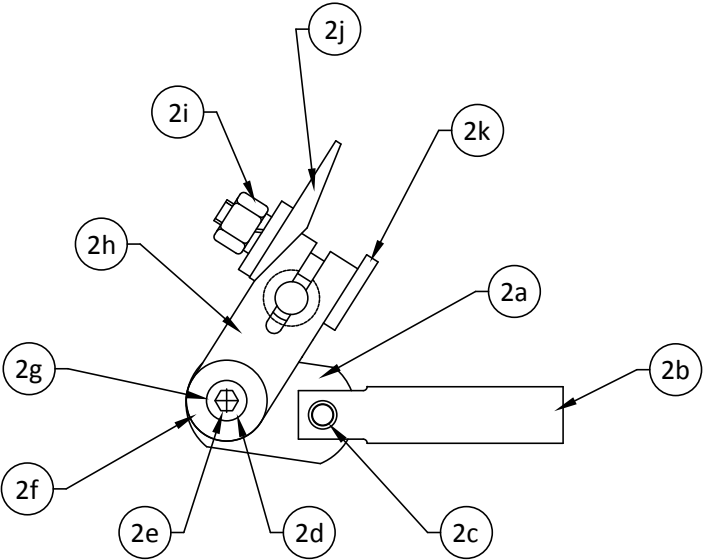
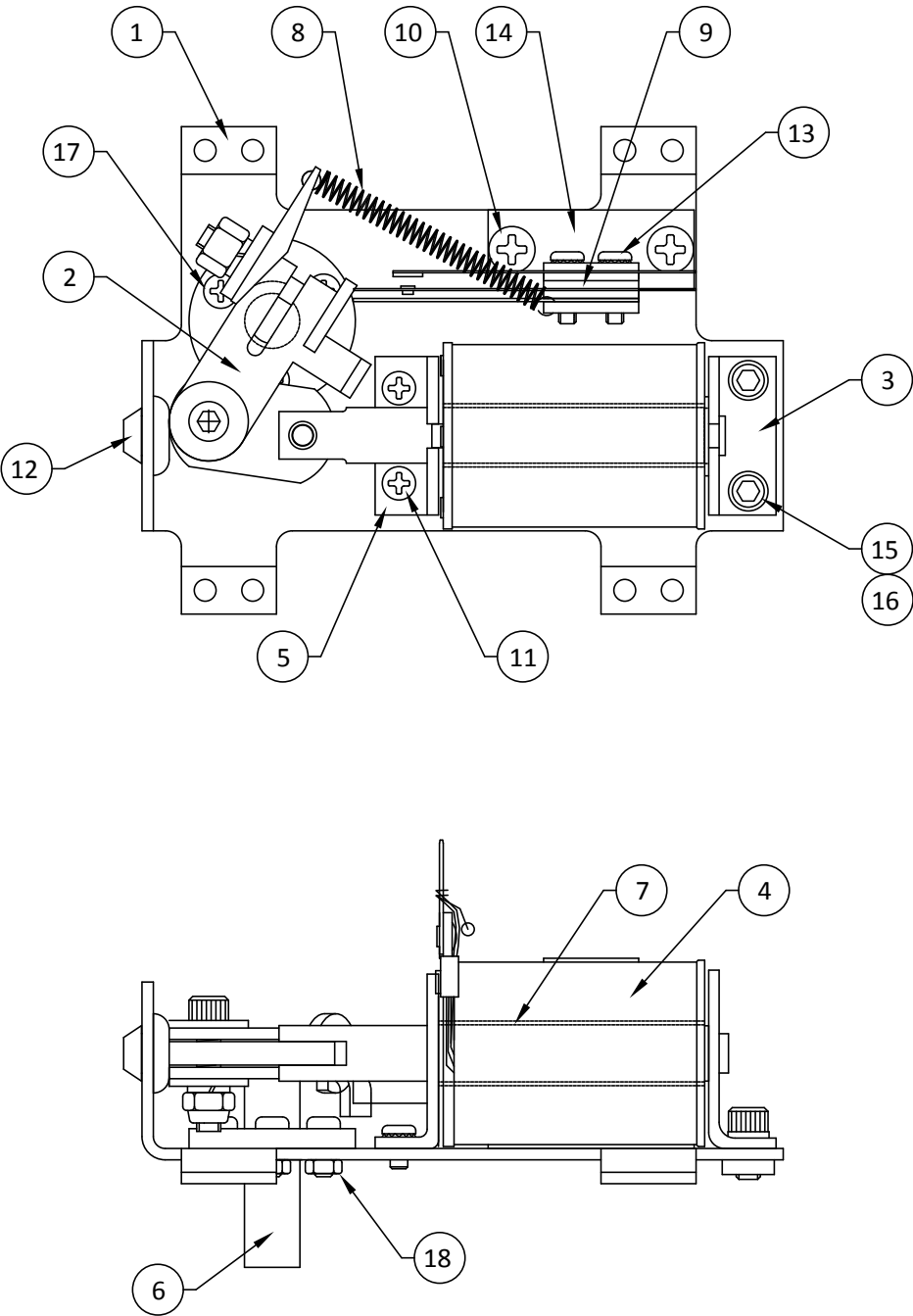
Bumper Balloon Assembly

31-5007-00

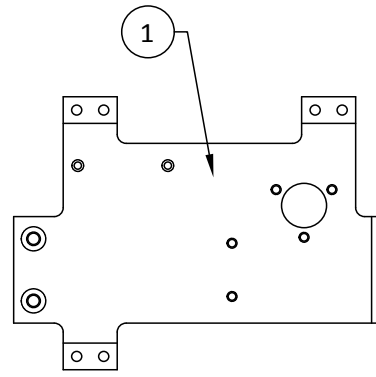
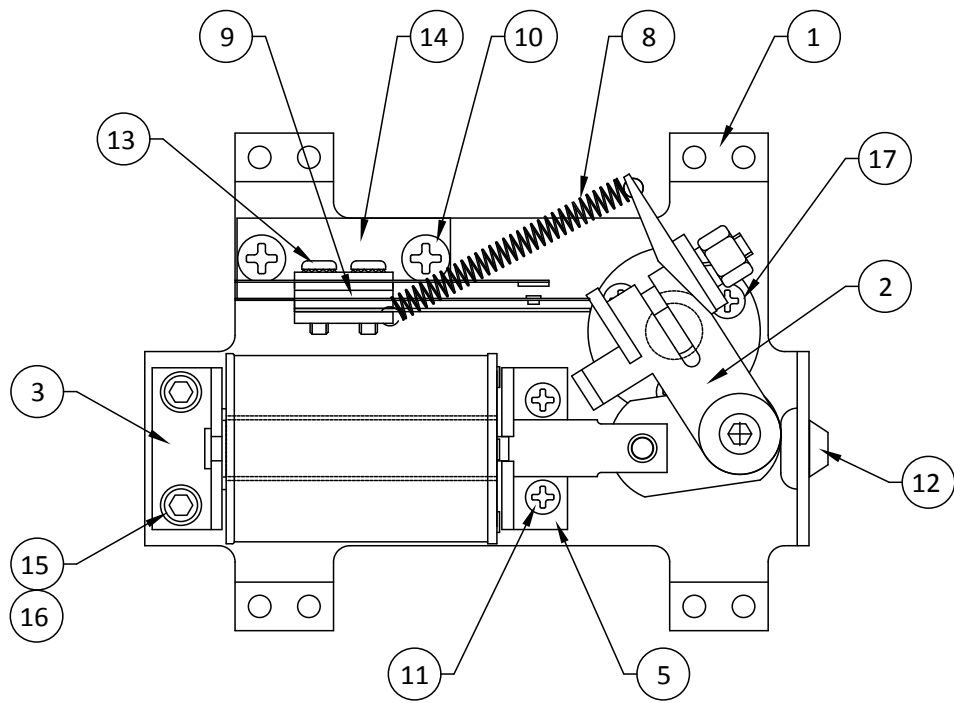
Item	Part Number	Description	Qty
1	32-0008-00	Molded State Fair Bumper Balloon	1
2	10-0067-00	Bumper Balloon Mtg Brkt	1
3	82-2008-08	#8 x 1/2" HWH Phillips SMS	2



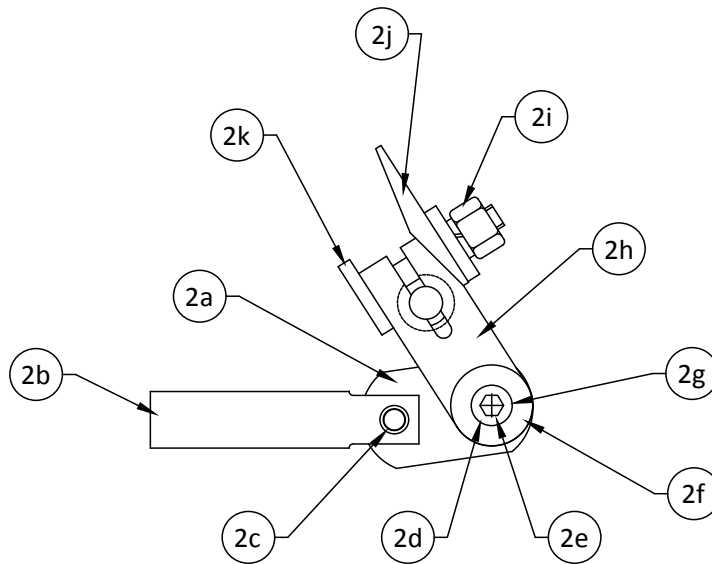
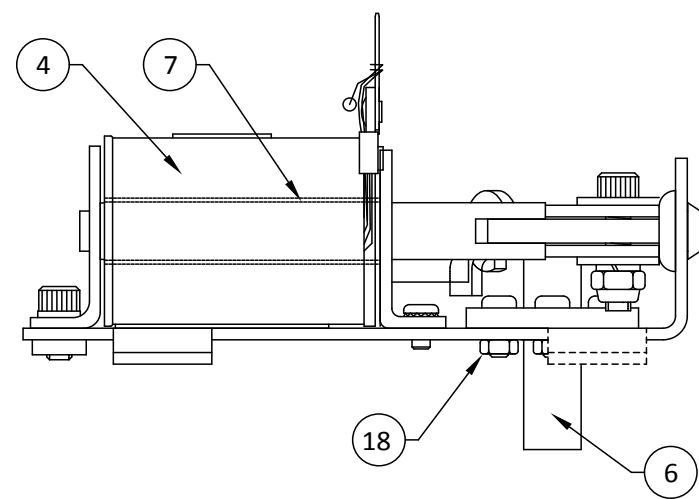
Right Flipper Assembly
51-0001-00



Item	Part Number	Description	Qty
1	10-5001-00	Flipper Base Plate, Right	1
2	51-5018-00	Flipper Crank & Link Assy, Right	1
a)	30-9003-00	Flipper Link	1
b)	11-0003-00	Flipper Plunger	1
c)	94-4002-00	5/32" x 7/16" Spirol Pin	1
d)	94-3001-00	Flipper Crank & Link Bushing	1
e)	90-4010-14	10-32 x 7/8" SH CS	1
f)	92-0010-00	#10 Flat Washer	2
g)	91-0010-00	10-32 Nylon Stop Nut	1
h)	10-0019-00	Flipper Crank, Right	1
i)	91-2010-01	10-32 Hex Nut	1
j)	10-0020-00	Flipper Return Spring Brkt	1
k)	90-0001-00	Locking Stud Bolt	1
3	10-7001-00	Flipper Coil Stop Brkt	1
4	23-2000-00	FL-11722 Flipper Coil (Castle Playfield)	1
or	23-2002-00	FL-11629 Flipper Coil (Right, Upper Right)	1
5	10-7002-01	Flipper Coil Centering Brkt, 1-Way	1
6	30-9002-00	Flipper Bushing	1
7	30-0014-35	2-3/16" Coil Tubing, Straight	1
8	13-7001-00	Flipper Return Spring	1
9	18-0001-00	End Of Stroke Leaf Switch	1
10	80-0008-05	8-32 x 5/16" PPH MS	2
11	80-1006-04	6-32 x 1/4" PPH MS, SEMS	2
12	25-9001-00	Rubber Bumper Plug, Black	1
13	82-0006-08	#6 x 1/2" PPH SMS	2
14	10-0018-00	End Of Stroke Switch Brkt	1
15	90-4010-06	10-32 x 3/8" SH CS	2
16	92-1010-00	#10 Split Lock Washer	2
17	80-0006-06	6-32 x 3/8" PPH MS	3
18	91-0006-00	6-32 Nylon Stop Nut	3



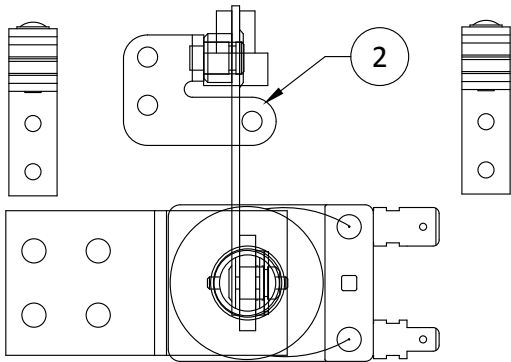
Modified Base Plate (-11)



Left Flipper Assembly, 51-0002-00

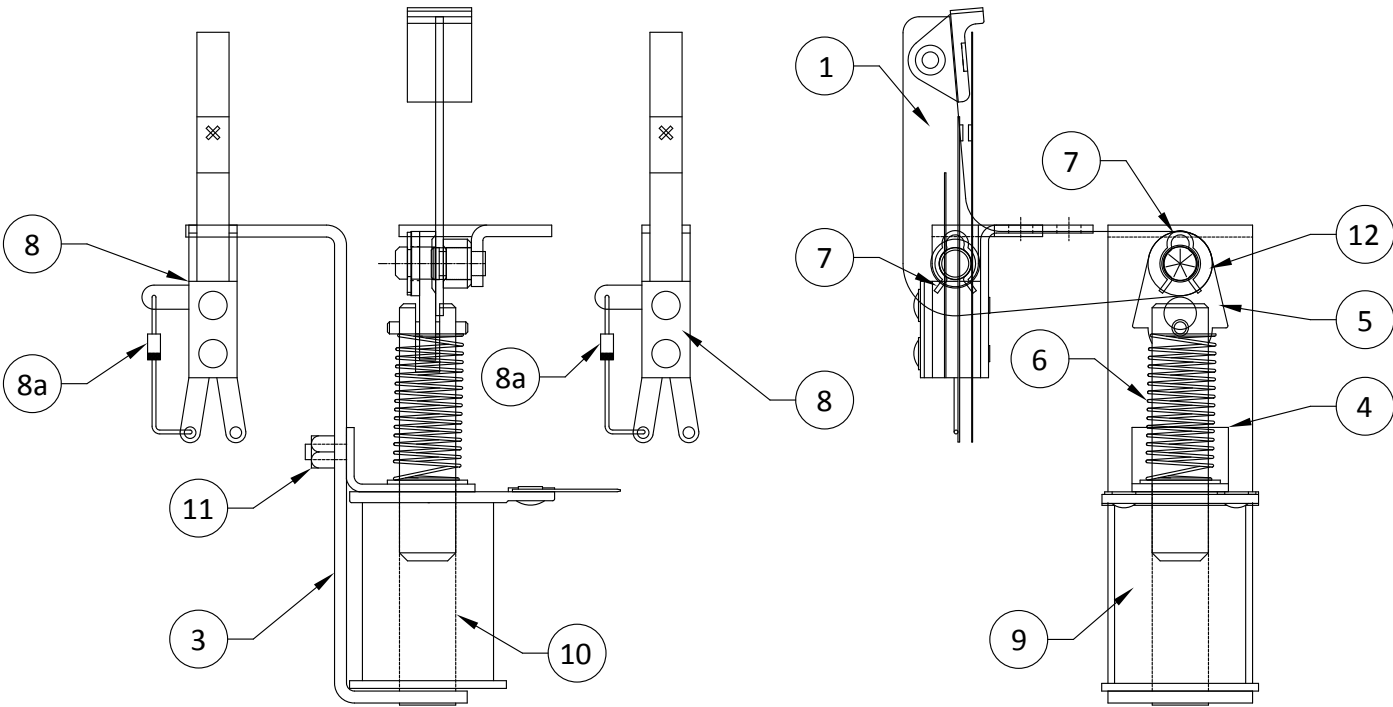
Left Flipper Assembly, Mod-UR, 51-0002-11

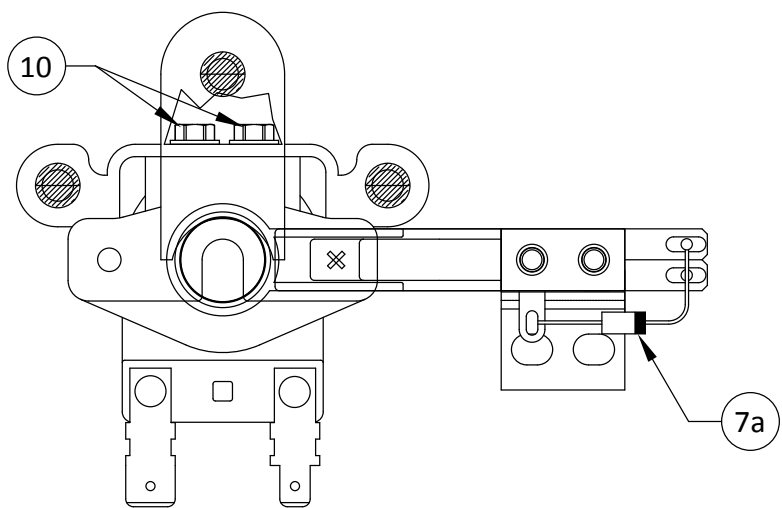
Item	Part Number	Description	Qty
1	10-5002-00	Flipper Base Plate, Left (-00, Left)	1
	or 10-5002-11	Flipper Base Plate, Left, Mod-UR (-11, Munchkinland Playfield)	1
2	51-5018-01	Flipper Crank & Link Assy, Left	1
a)	30-9003-00	Flipper Link	1
b)	11-0003-00	Flipper Plunger	1
c)	94-4002-00	5/32" x 7/16" Spirol Pin	1
d)	94-3001-00	Flipper Crank & Link Bushing	1
e)	90-4010-14	10-32 x 7/8" SH CS	1
f)	92-0010-00	#10 Flat Washer	2
g)	91-0010-00	10-32 Nylon Stop Nut	1
h)	10-0019-01	Flipper Crank, Left	1
i)	91-2010-01	10-32 Hex Nut	1
j)	10-0020-00	Flipper Return Spring Brkt	1
k)	90-0001-00	Locking Stud Bolt	1
3	10-7001-00	Flipper Coil Stop Brkt	1
4	23-2002-00	FL-11629 Flipper Coil (-00, Left)	1
	or 23-2000-00	FL-11722 Flipper Coil (-11, Munchkinland Playfield)	1
5	10-7002-01	Flipper Coil Centering Brkt, 1-Way	1
6	30-9002-00	Flipper Bushing (-00, Left)	1
	or 30-9002-01	Flipper Bushing, Extended (-11, Munchkinland Playfield)	1
7	30-0014-35	2-3/16" Coil Tubing, Straight	1
8	13-7001-00	Flipper Return Spring	1
9	18-0001-00	End Of Stroke Leaf Switch	1
10	80-8008-05	8-32 x 5/16" PPH MS, SEMS	2
11	80-0006-04	6-32 x 1/4" PPH MS	2
12	25-9001-00	Rubber Bumper Plug, Black	1
13	80-0006-08	6-32 x 1/2" PPH MS	2
14	10-0018-00	End Of Stroke Switch Brkt	1
15	90-4010-06	10-32 x 3/8" SH CS	2
16	92-1010-00	#10 Split Lock Washer	2
17	80-1006-06	6-32 x 3/8" PPH MS, SEMS	3
18	91-0006-00	6-32 Nylon Stop Nut	3



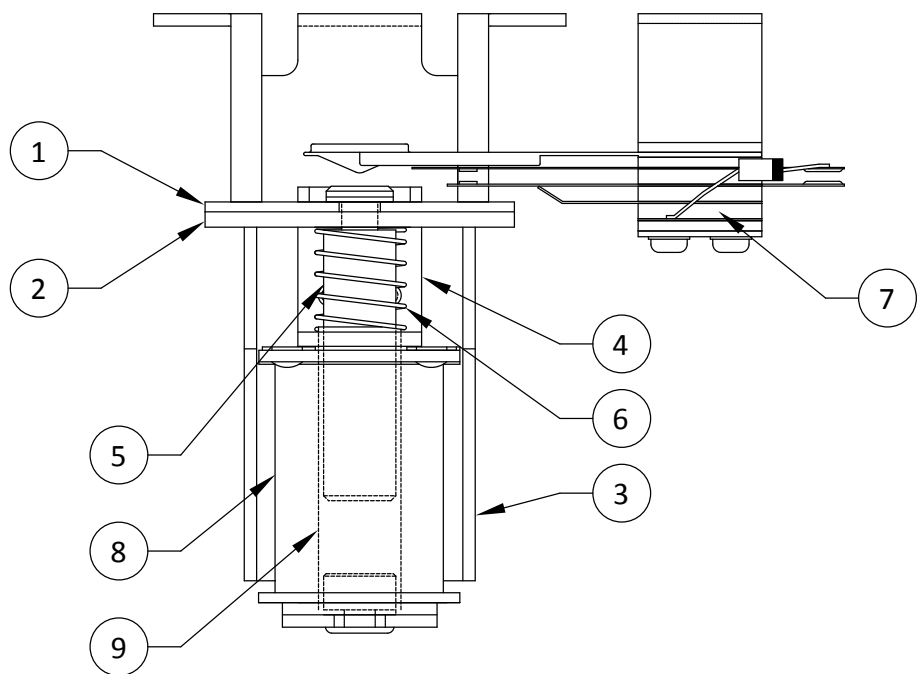
Slingshot Assembly
51-0003-00

Item	Part Number	Description	Qty
1	10-0042-00	Slingshot Kicker Crank Brkt	1
2	10-0043-00	Slingshot Kicker Crank Mtg Brkt	1
3	10-5004-00	Slingshot Coil Brkt	1
4	10-7000-01	Coil Centering Brkt, 5/8", 6-32 Studs	1
5	11-5003-00	Slingshot Plunger & Link Assy, 2"	1
6	13-7004-00	Slingshot Plunger Return Spring	1
7	13-9002-00	Hairpin Clip	2
8	18-7008-00	Slingshot Leaf Switch Assy, Front Mount	2
a)	110-0002-0T	Diode, 1N4004, 400V, 1A	2
9	23-0003-00	23-800 Standard Coil	1
10	30-0014-28	1-3/4" Coil Tubing, Straight	1
11	91-0006-00	6-32 Nylon Stop Nut	2
12	95-2651-20-67	.265 x .500 x .067 Flat Washer	1





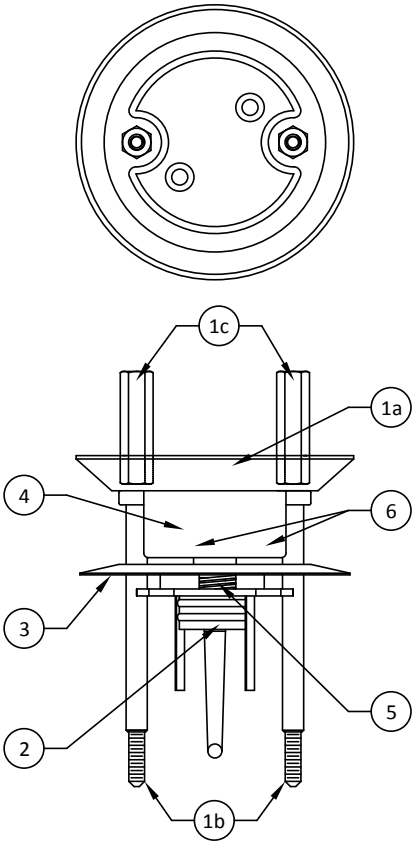
Pop Bumper Bottom Assembly 51-0004-00



Item	Part Number	Description	Qty
1	10-0021-00	Pop Bumper Yoke, Steel	1
2	10-0021-01	Pop Bumper Yoke, Bakelite	1
3	10-5003-00	Pop Bumper Coil Brkt	1
4	10-7003-00	Pop Bumper Coil Centering Brkt	1
5	11-0004-00	Pop Bumper Coil Plunger	1
6	13-7002-00	Pop Bumper Spring	1
7	18-7007-00	Pop Bumper Leaf Switch Assy	1
a)	110-0002-0T	Diode, 1N4004, 400V, 1A	1
8	23-0003-00	23-800 Standard Coil	1
9	30-0014-28	1-3/4" Coil Tubing, Straight	1
10	80-2006-04	6-32 x 1/4" HWH Phillips MS, Serrated	2

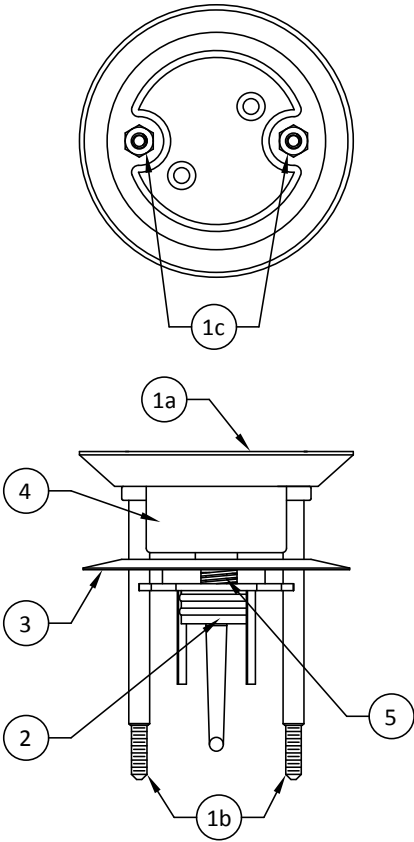
Jump Bumper Top Assembly
51-0005-00

Item	Part Number	Description	Qty
1	11-5004-00	Jump Bumper Ring & Rod Assy	1
a)	11-0005-00	Pop Bumper Ring	1
b)	11-0008-00	Pop Bumper Rod	2
c)	94-0406-16	1/4" x 1" Hex Spacer, F-F, 6-32, Black	2
2	30-0003-00	Pop Bumper Base, Black	1
3	30-0004-00	Pop Bumper Skirt, Black	1
4	30-0005-00	Pop Bumper Body, Black	1
5	13-7003-00	Pop Bumper Skirt Spring	1



Pop Bumper Top Assembly
51-0006-00

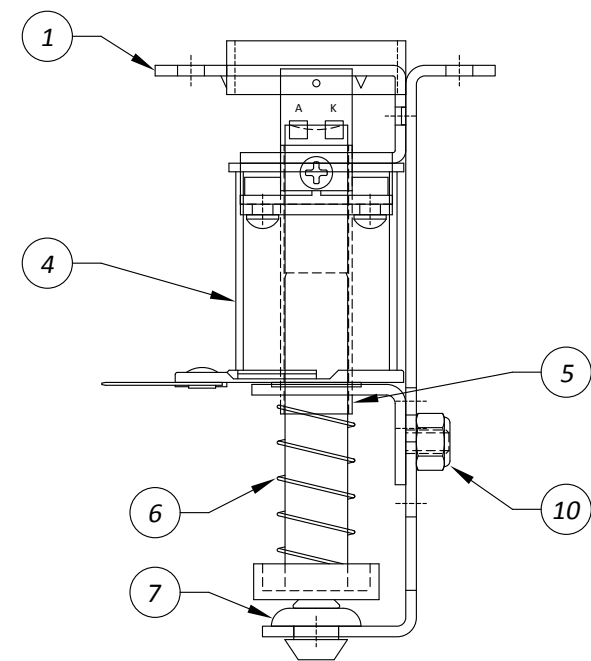
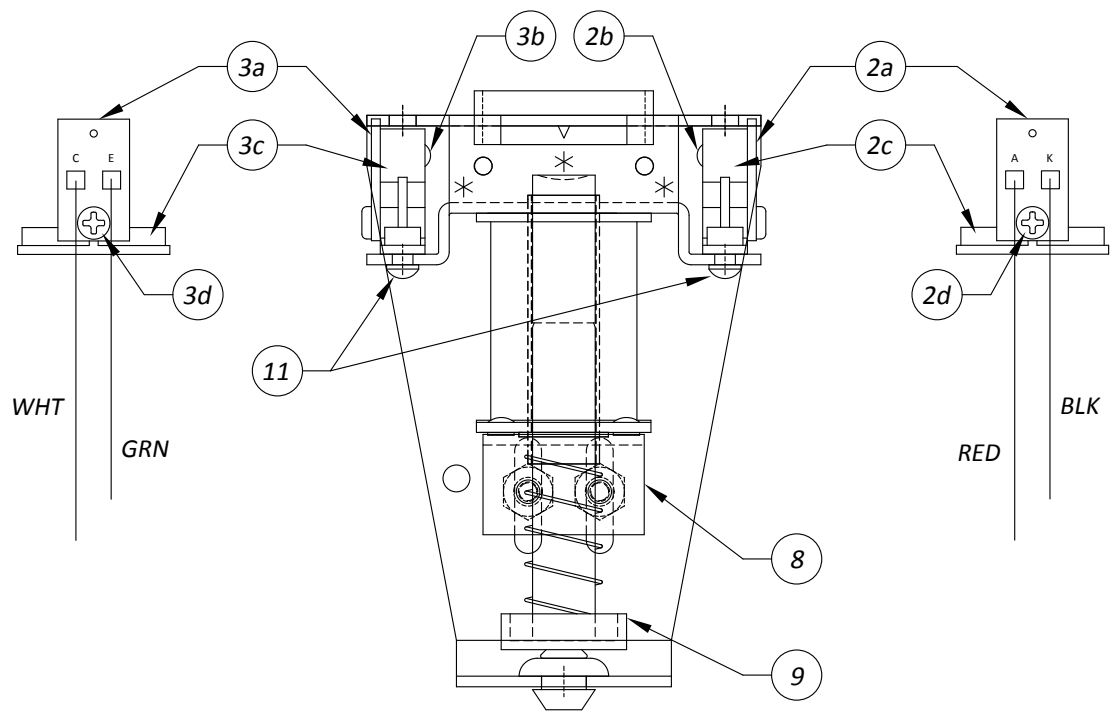
Item	Part Number	Description	Qty
1	11-5004-01	Pop Bumper Ring & Rod Assy	1
a)	11-0005-00	Pop Bumper Ring	1
b)	11-0008-00	Pop Bumper Rod	2
c)	91-0006-00	6-32 Nylon Stop Nut	2
2	30-0003-00	Pop Bumper Base, Black	1
3	30-0004-00	Pop Bumper Skirt, Black	1
4	30-0005-00	Pop Bumper Body, Black	1
5	13-7003-00	Pop Bumper Skirt Spring	1



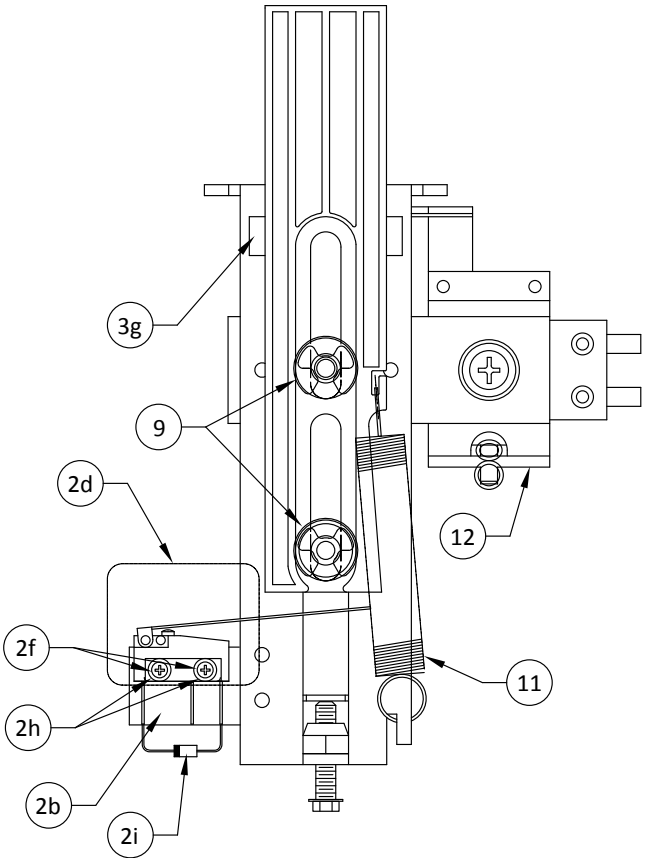
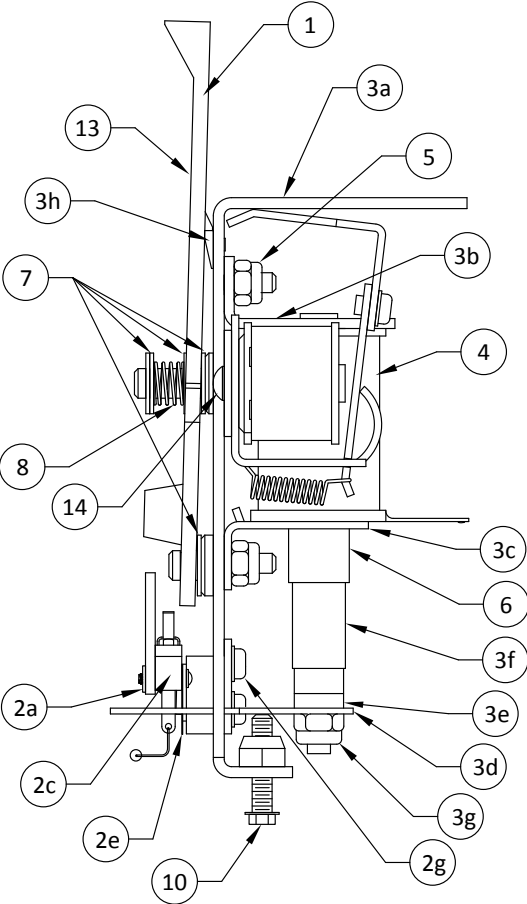
Vertical Up-Kicker Assembly

51-0009-00

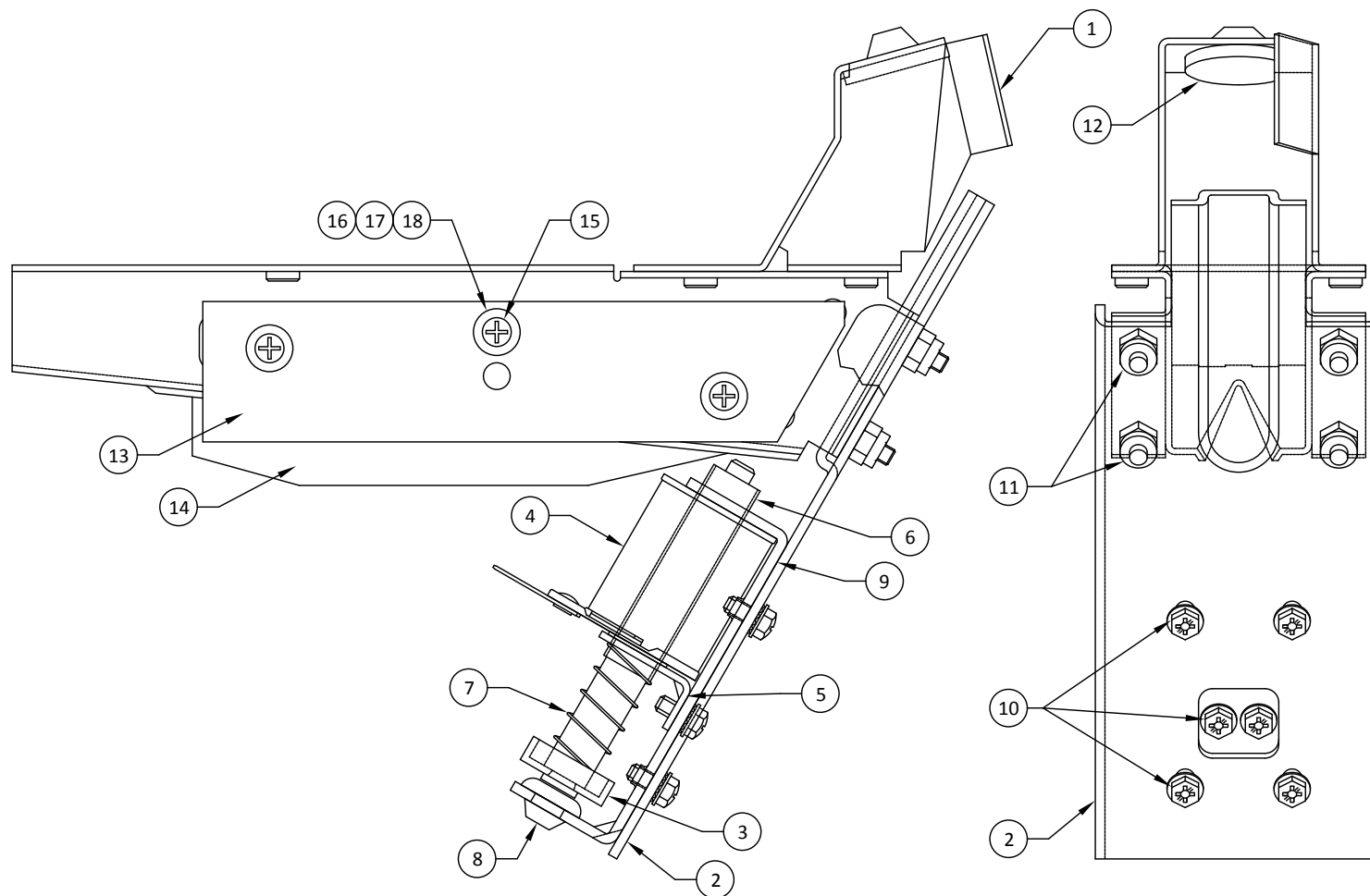
Item	Part Number	Description	Qty	Item	Part Number	Description	Qty
1	10-5005-00	VUK Coil Brkt	1	4	23-0003-00	23-800 Standard Coil	1
2	15-5004-01	VUK Opto PCB Assy, Transmitter	1	5	30-0014-30-1	1-7/8" Coil Tubing, Flanged	1
a)	15-0005-00	VUK Infrared LED Bd	1	6	13-7005-00	VUK Plunger Return Spring	1
b)	24-0002-0T	LED, IR Emitting, QED123, 880nm, 5mm	1	7	25-9001-00	Rubber Bumper Plug, Black	1
c)	30-0039-00	Opto Base, White	1	8	10-7004-00	Coil Centering Brkt, 5/8", 8-32 Studs	1
d)	82-0004-06	#4 x 3/8" PPH SMS	1	9	11-5001-00	VUK Armature Plunger Assy	1
3	15-5004-00	VUK Opto PCB Assy, Receiver	1	10	91-0008-00	8-32 Nylon Stop Nut	2
a)	15-0005-01	VUK Phototransistor Bd	1	11	83-0006-04	6-32 x 1/4" PPH MS, Type 25 Thread Cutter	4
b)	24-0003-0T	Phototransistor, IR, QSD123, 880nm, 5mm	1				
c)	30-0038-00	Opto Base, Black	1				
d)	82-0004-06	#4 x 3/8" PPH SMS	1				



1-Bank Drop Target Assembly
51-0013-00



Item	Part Number	Description	Qty
1	30-0016-00	Drop Tgt, Rollover, Black	1
2	18-7010-00	1-Bank Drop Tgt Switch Assy	1
a)	10-0024-00	Microswitch Nut Plate, 2-56	1
b)	10-0029-00	1-Bank Drop Tgt Switch Brkt	1
c)	18-3002-00	1-Bank Drop Tgt Microswitch & Wireform	1
d)	30-0023-00	1-Bank Drop Tgt Switch Actuator Guide	1
e)	70-9002-00	Microswitch Insulator, Fish Paper	1
f)	80-2002-10	2-56 x 5/8" HWH MS	2
g)	80-2006-04	6-32 x 1/4" HWH Phillips MS, Serrated	2
h)	92-0002-00	#2 Flat Washer	2
i)	110-0002-0T	Diode, 1N4004, 400V, 1A	1
3	51-5021-00	1-Bank Drop Tgt Brkt & Post Assy	1
a)	10-5011-00	1-Bank Drop Tgt Coil Brkt	1
b)	10-7008-00	Drop Tgt Coil Stop Brkt	1
c)	10-7009-00	Coil Centering Brkt, 3/4"	1
d)	10-0063-00	1-Bank Drop Tgt Reset Brkt	1
e)	30-0053-00	1-Bank Drop Tgt Plunger Spacer	1
f)	11-0018-00	Drop Tgt Plunger	1
g)	91-0010-00	10-32 Nylon Stop Nut	1
h)	30-0024-00	Drop Tgt Plastic Tgt Stop	1
4	23-0003-00	23-800 Standard Coil	1
5	91-0008-00	8-32 Nylon Stop Nut	4
6	30-0014-33	2-1/16" Coil Tubing, Straight	1
7	92-0008-01	.256 x.500 x.032 Flat Washer	4
8	13-7008-00	Drop Tgt Compression Spring	1
9	94-4001-04	1/4" Shaft E-Clip	2
10	80-2010-12	10-32 x 3/4" HWH Phillips MS, Serrated	1
11	13-7009-00	Drop Tgt Extension Spring	1
12	51-5020-00	1-Bank Drop Tgt Reset Assy	1
13	62-0001-20	WOZ Winkie Guard Drop Tgt Decal	1
14	80-2006-04	6-32 x 1/4" HWH Phillips MS, Serrated	2

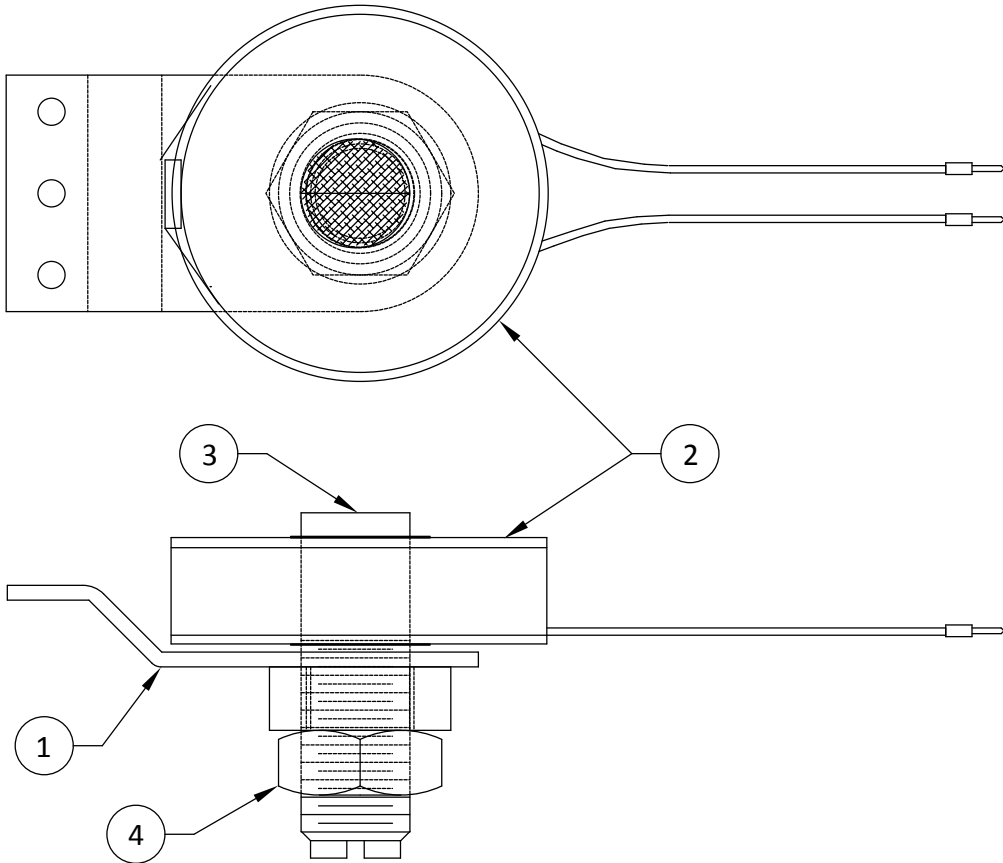


5-Ball Trough Assembly 51-0021-00

Item	Part Number	Description	Qty
1	10-5010-00	Ball Trough Main Brkt	1
2	10-5010-01	Ball Trough Coil Brkt	1
3	11-5001-00	VUK Armature Plunger Assy	1
4	23-0003-00	23-800 Standard Coil	1
5	10-7000-00	Coil Centering Brkt, 5/8", 8-32	1
6	30-0014-30-1	1-7/8" Coil Tubing, Flanged	1
7	13-7005-00	VUK Plunger Return Spring	1
8	25-9001-00	Rubber Bumper Plug, Black	1
9	10-7006-00	Ball Trough Coil Mtg Brkt	1
10	80-2008-04	8-32 x 1/4" HWH Phillips MS, Serrated	6
11	91-0008-00	8-32 Nylon Stop Nut	4
12	25-9001-01	Ball Trough Bumper Plug, Blue	1
13	15-5007-01	5-Ball Trough Opto Transmitter Bd Assy	1
14	15-5007-00	5-Ball Trough Opto Receiver Bd Assy	1
15	80-2006-10	6-32 x 5/8" HWH Phillips MS, Serrated	6
16	25-9006-00	Rubber Grommet, Ball Trough PCB Mtg	6
17	92-0006-00	#6 Flat Washer	6
18	94-3002-00	Ball Trough PCB Metal Bushing	6

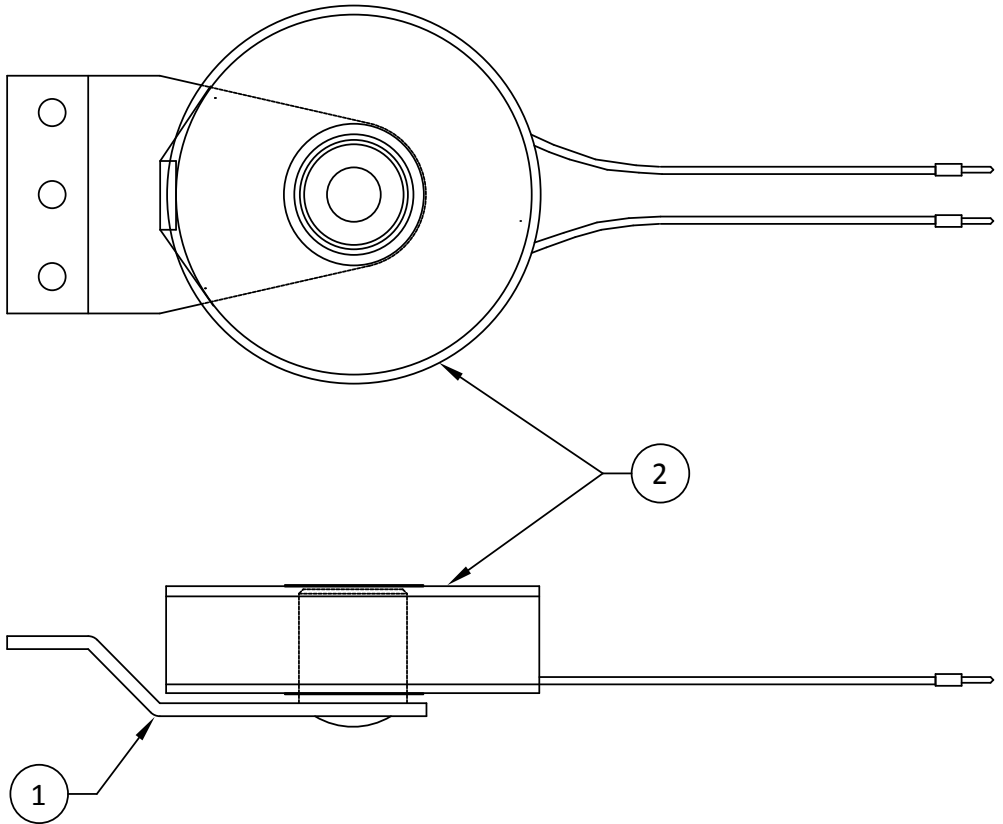
Playfield Magnet Assembly, Adjustable Core
51-0024-00

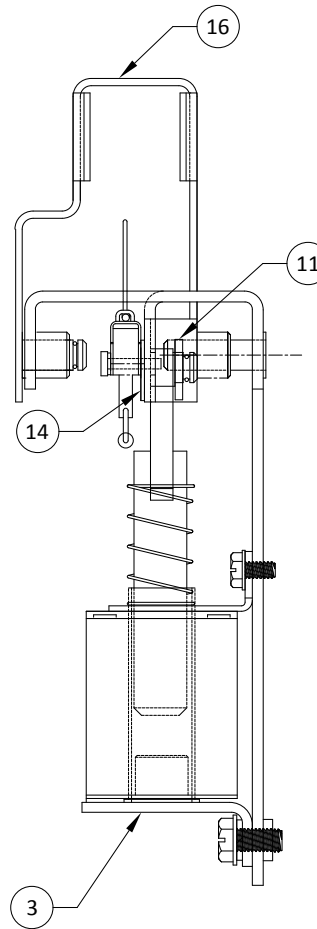
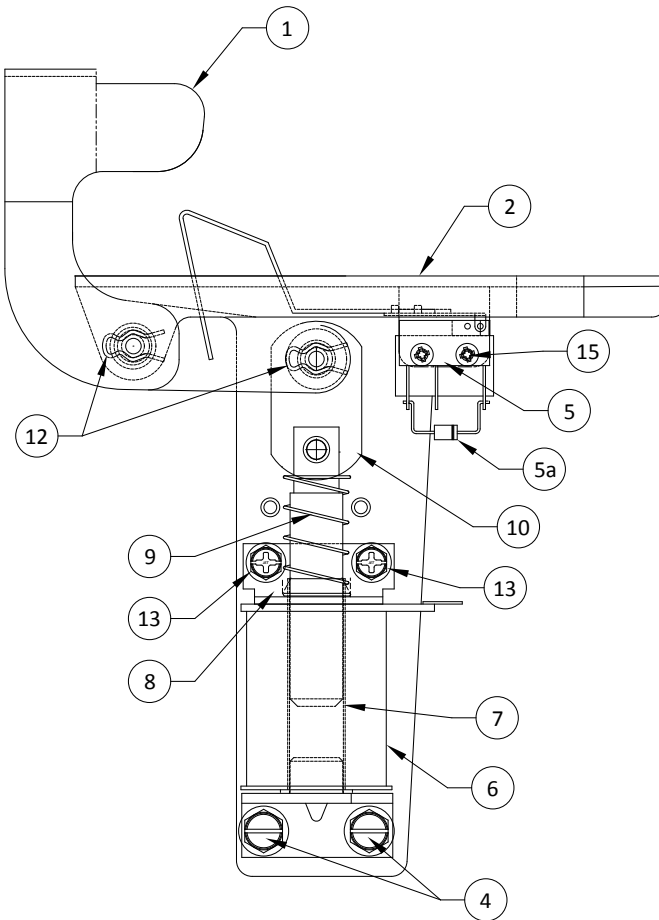
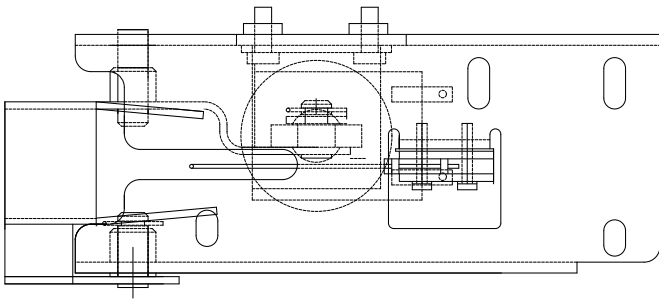
Item	Part Number	Description	Qty
1	10-5008-00	Playfield Magnet Brkt, Adjustable Core	1
2	23-4005-00	22-675 Lg Magnet Coil	1
3	11-0012-00	Magnet Pole Shaft	1
4	91-2034-00	3/4-16 Hex Jam Nut	1



Playfield Magnet Assembly, Fixed Core
51-0024-01

Item	Part Number	Description	Qty
1	10-5008-01	Playfield Magnet Brkt, Fixed Core	1
2	23-4005-00	22-675 Lg Magnet Coil	1



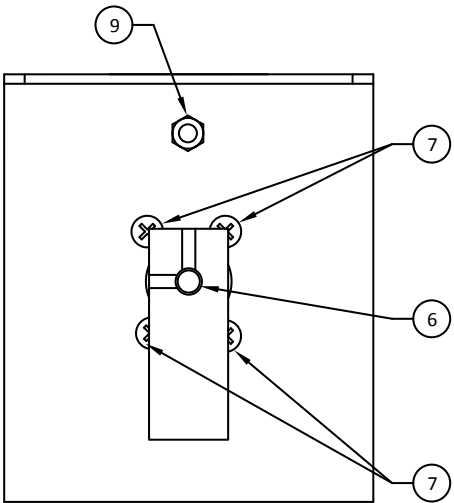
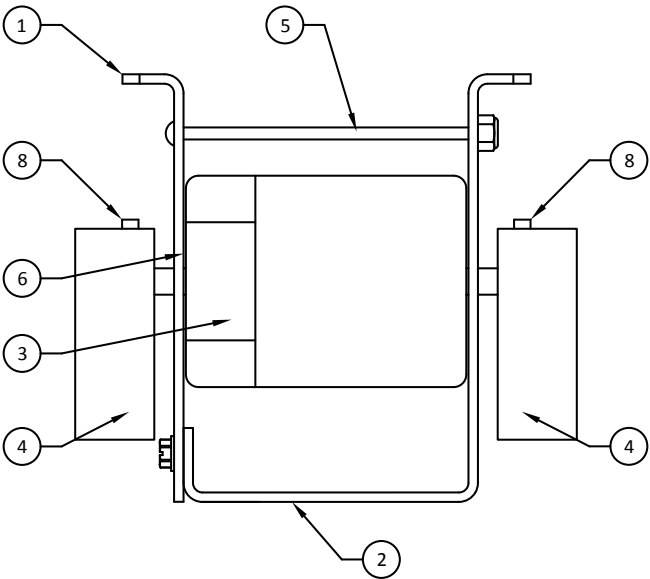
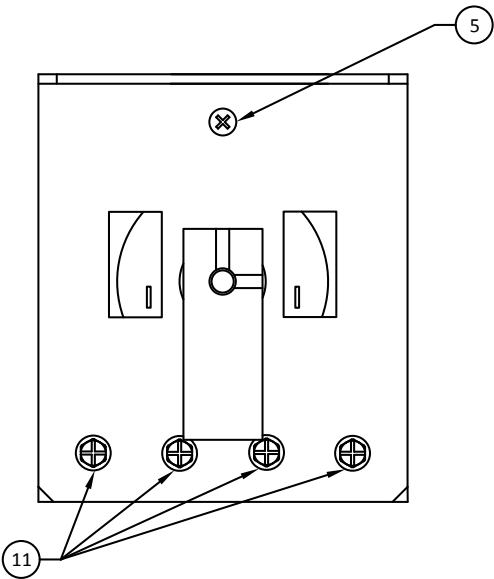
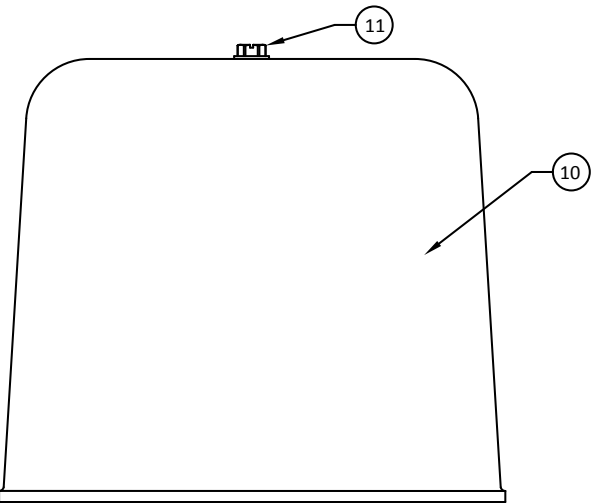
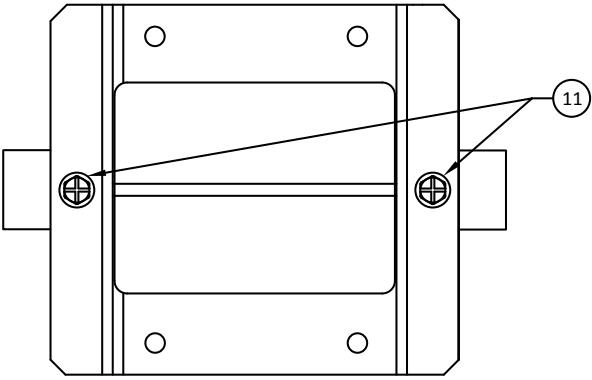


Auto-Launch Assembly 51-0026-00

Item	Part Number	Description	Qty
1	10-0028-00	Auto-Launch Crank Brkt	1
2	10-5009-00	Auto-Launch Coil Brkt	1
3	10-7005-00	Auto-Launch Coil Stop Brkt	1
4	80-2010-06	10-32 x 3/8" HWH Phillips MS, Serrated	2
5	18-3001-00	Auto-Launch Microswitch & Wireform	1
a)	110-0002-0T	Diode, 1N4004, 400V, 1A	1
6	23-0003-00	23-800 Standard Coil	1
7	30-0014-28	1-3/4" Coil Tubing, Straight	1
8	10-7009-00	Coil Centering Brkt, 3/4"	1
9	13-7004-00	Slingshot Coil Spring	1
10	11-5000-00	Flipper Plunger & Link Assy	1
11	95-2364-12	Flat Washer, 23/64" x 1/2" x 12ga	1
12	13-9002-00	Hairpin Clip	2
13	80-2006-04	6-32 x 1/4" HWH Phillips MS, Serrated	2
14	70-9002-00	Microswitch Insulator, Fish Paper	1
15	80-2102-07	2-56 x 7/16" HWH MS, Black	2
16	62-0002-00	Auto-Launch Crank Decal	1

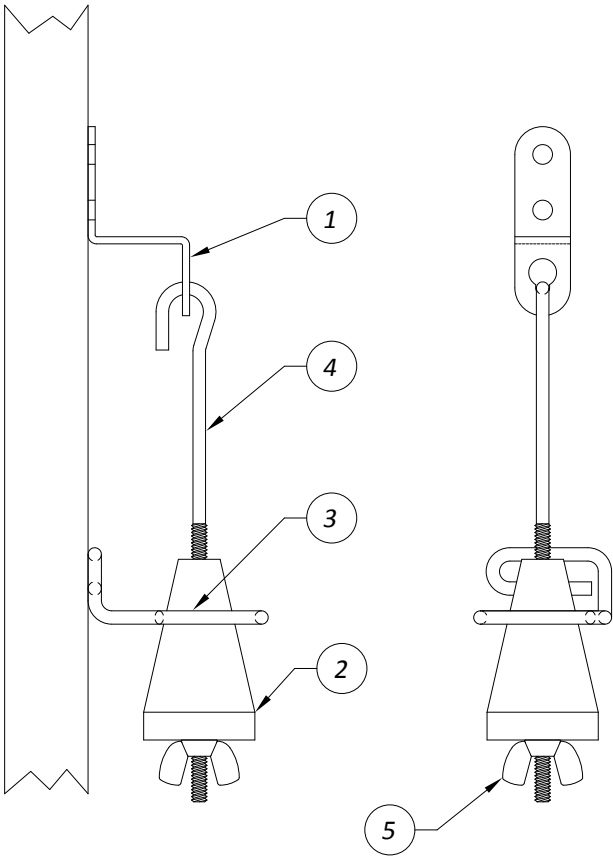
Shaker Motor Assembly
51-5027-01

Item	Part Number	Description	Qty
1	10-5006-01	Shaker Motor Front Brkt	1
2	10-5006-00	Shaker Motor Mtg Brkt	1
3	23-5003-00	Shaker Motor	1
4	11-0010-00	Eccentric Weight	2
5	80-0006-40	6-32 x 2-3/4" PPH MS	1
6	95-4000-00	Insulator Washer	1
7	80-0010-08	10-32 x 1/2" PPH MS	4
8	85-4008-04	8-32 x 1/4" Set Screw, Black	2
9	91-0006-00	6-32 Nylon Stop Nut	1
10	30-0011-00	Shaker Motor Plastic Cover	1
11	80-2008-04	8-32 x 1/4" HWH Phillips MS, Serrated	6
NS	109-100M-050	Capacitor, Elect (Radial), 100μF, 50V, 20%	1
NS	90-0007-00	#8 Terminal Lock Washer, Angled	1



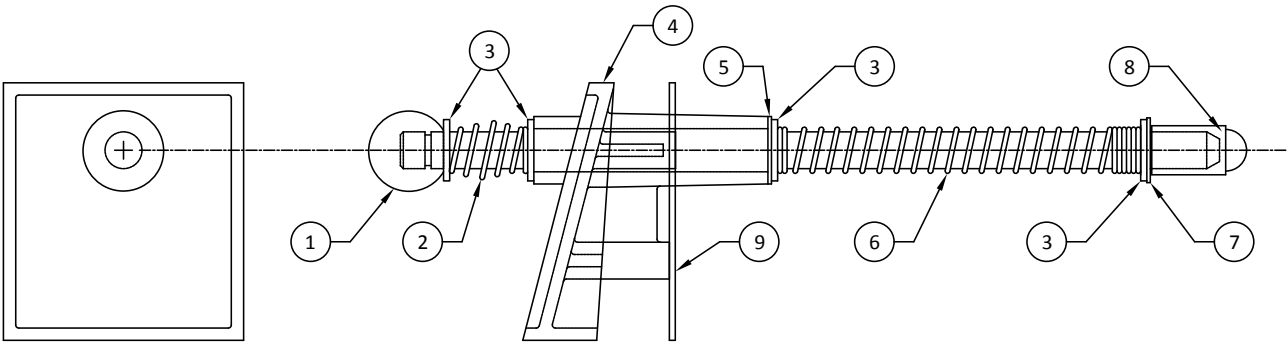
Plumb Bob Tilt Assembly 51-0028-00

Item	Part Number	Description	Qty
1	10-0086-00	Tilt Hanger Wire Brkt	1
2	11-0028-00	Plumb Bob Weight	1
3	13-3008-00	Tilt Contact Wire Form Brkt	1
4	13-3009-00	Tilt Hanger Wire	1
5	91-3406-00	6-32 Wing Nut, Nylon	1



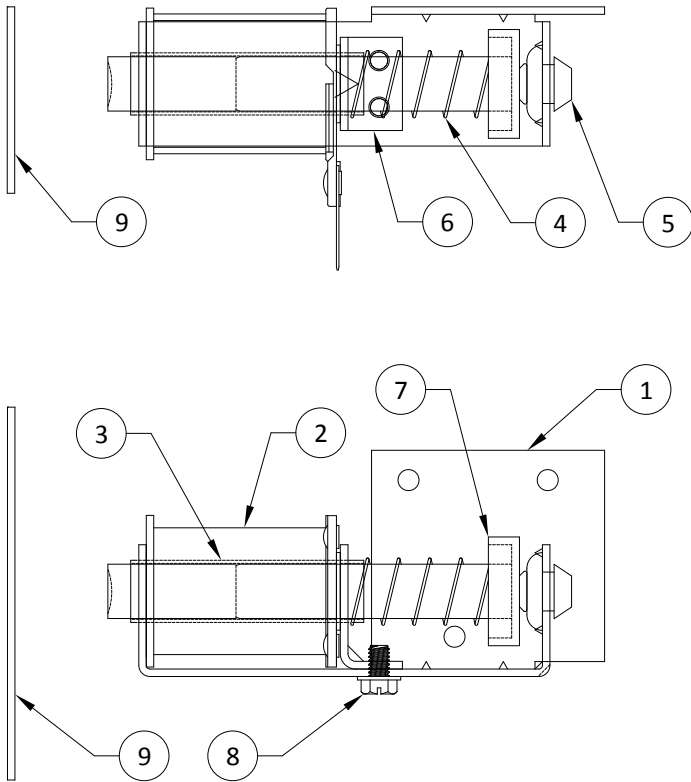
Ball Shooter Assembly 51-0031-05WG, 51-0031-00, 51-0031-05WR

Item	Part Number	Description	Qty
1 LE	11-0007-05	Shooter Rod, Metallic Green Ball	1
Std	11-0007-00	Shooter Rod, Black Knob	1
75	11-0007-00	Shooter Rod, Black Knob	1
2	13-7006-00	Ball Shooter Outer Spring	1
3	95-2564-58-16	Flat Washer, 25/64" x 5/8" x 16 ga	4
4 LE	14-0001-05	Ball Shooter Housing, Green Powder Coated	1
Std	14-0001-08	Ball Shooter Housing, Chrome	1
75	14-0001-02	Ball Shooter Housing, Red Powder Coated	1
5	30-0021-00	Ball Shooter Sleeve	1
6	13-7007-01	Ball Shooter Power Spring, Violet	1
7	94-4001-06	3/8" Shaft E-Clip	1
8	25-9003-00	Ball Shooter Tip, Black	1
9	10-0025-00	Ball Shooter Cabinet Mtg Plate	1



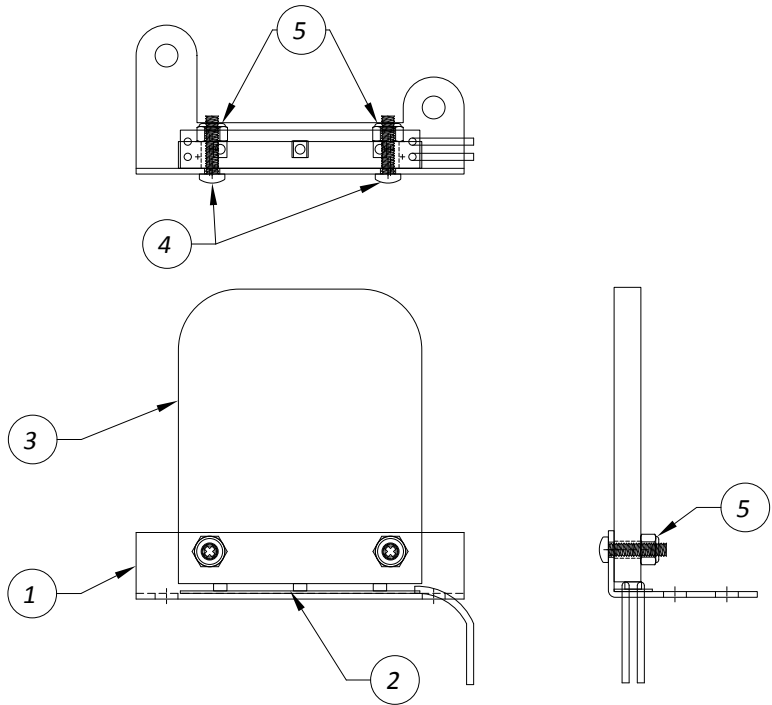
Knocker Assembly
51-0032-00

Item	Part Number	Description	Qty
1	10-5007-00	Kickback/Knocker Coil Brkt, Left Mount	1
2	23-0003-00	23-800 Standard Coil	1
3	30-0014-30-1	1-7/8" Coil Tubing, Flanged	1
4	13-7005-00	VUK Plunger Return Spring	1
5	25-9001-00	Rubber Bumper Plug, Black	1
6	10-7000-00	Coil Centering Brkt, 5/8", 8-32	1
7	11-5001-00	VUK Armature Plunger Assy	1
8	80-2008-04	8-32 x 1/4" HWH Phillips MS, Serrated	2
9	10-0016-00	Knocker Strike Plate	1



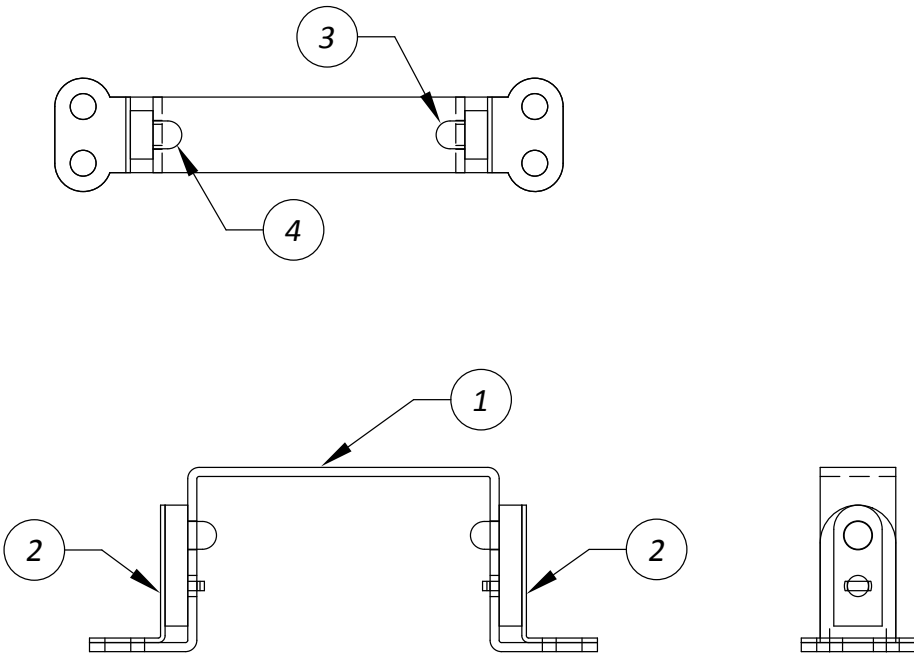
Playfield Oz Head Assembly
51-0034-00

Item	Part Number	Description	Qty
1	10-0088-00	Playfield Oz Head Mtg Brkt, Black	1
2	24-0001-05	LED Strip, Green	1
3	30-0031-00	Playfield OZ Head Plastic, Lasered	1
4	80-2104-08	4-40 x 1/2" HWH MS, Black	2
5	91-0104-00	4-40 Nylon Stop Nut, Black	2



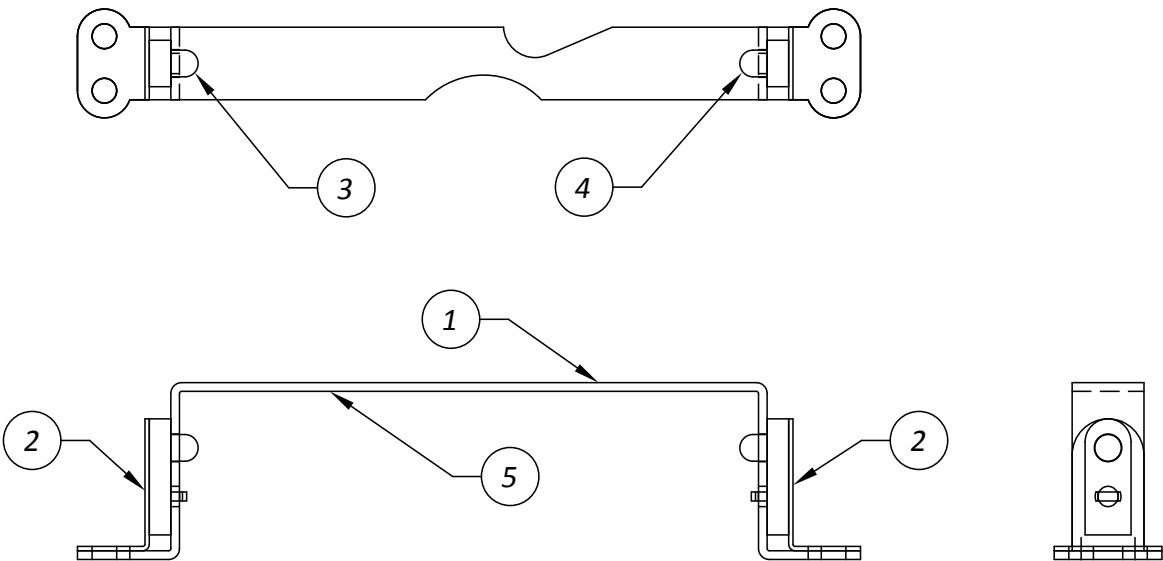
Playfield Opto Assembly, Small
51-0036-00

Item	Part Number	Description	Qty
1	10-0096-00	Playfield Opto Mtg Brkt, Small	1
2	10-0097-00	Playfield Opto Retainer	2
3	18-5001-01	Phototransistor Assy	1
4	18-5001-00	Infrared LED Assy	1



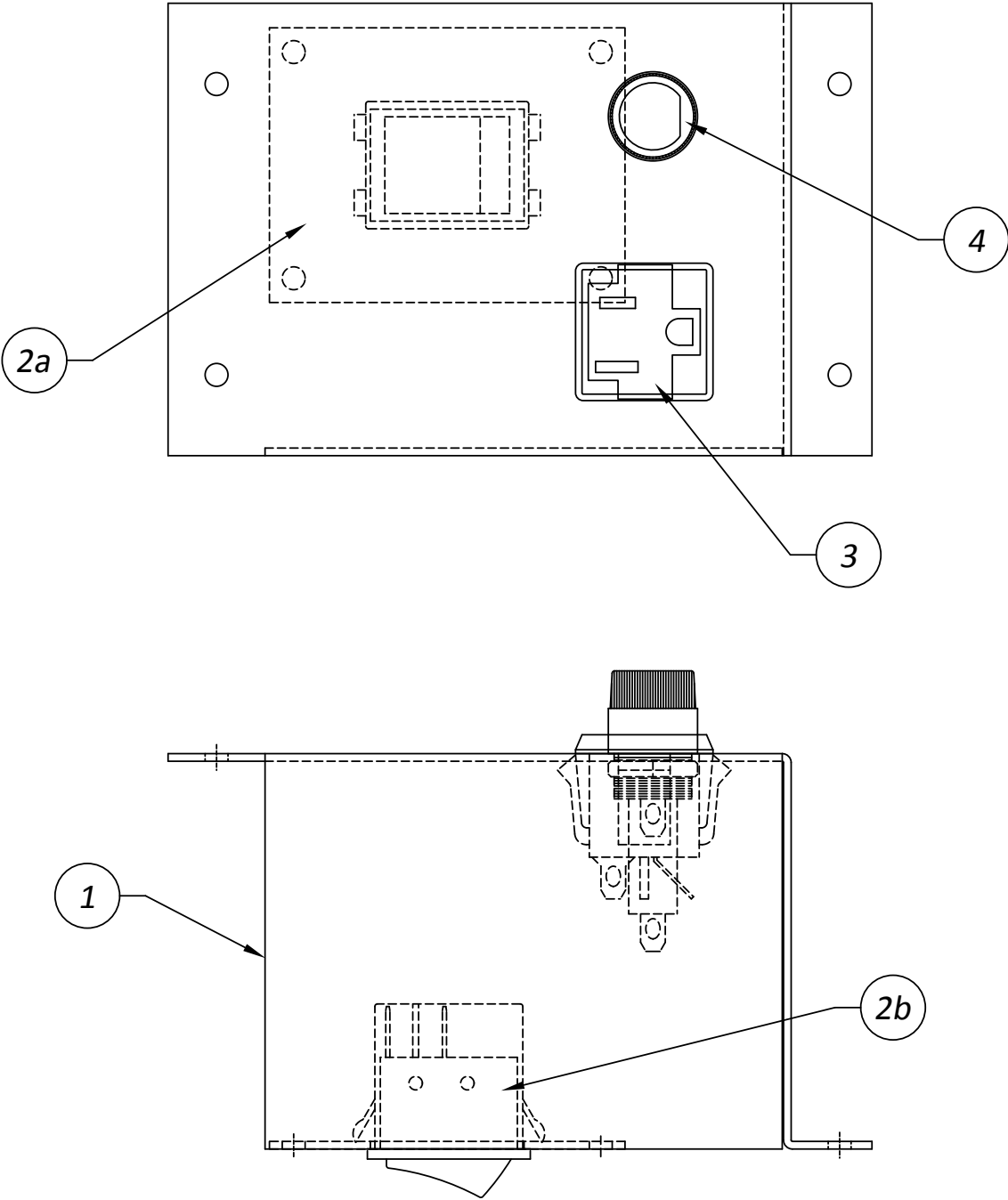
Playfield Opto Assembly, Large
51-0036-01

Item	Part Number	Description	Qty
1	10-0096-01	Playfield Opto Mtg Brkt, Large	1
2	10-0097-00	Playfield Opto Retainer	2
3	18-5001-01	Phototransistor Assy	1
4	18-5001-00	Infrared LED Assy	1
5	62-0003-00	Large Opto Brkt Decal	1

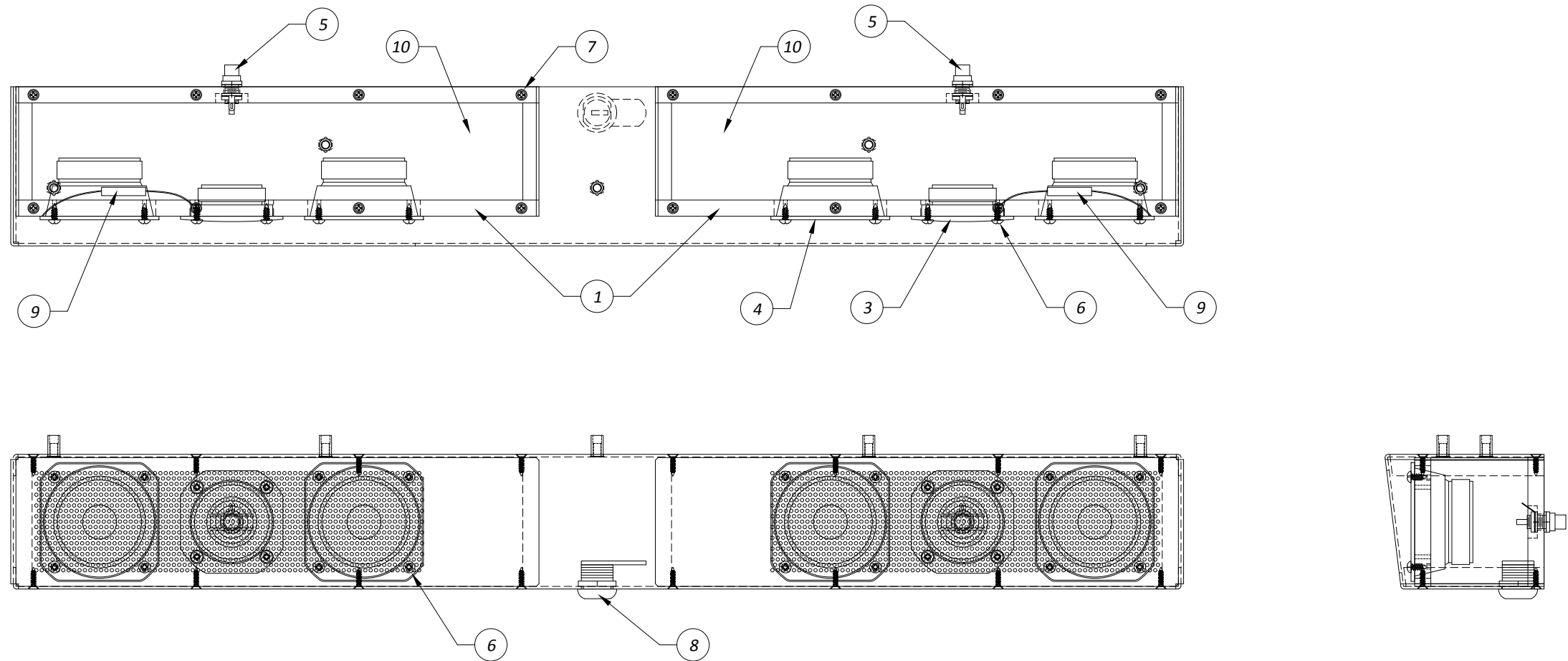


Power Box Assembly
51-5001-00

Item	Part Number	Description	Qty
1	10-0008-00	Cabinet Metal Power Box	1
2	18-7012-00	On/Off Switch Assy	1
a)	10-0087-00	On/Off Switch Mtg Brkt	1
b)	18-3006-00	On/Off Switch, Rocker Style	1
3	22-0001-00	USA Service Outlet, Snap-In	1
4	22-8000-00	Line Fuse Holder	1
USA	170-0110-SR	Fuse, Slow Blow, 10A, 125V, 0.25" x 1.25", 3AG	1
Euro	170-0205-SR	Fuse, Slow Blow, 5A, 250V, 0.25" x 1.25", 3AG	1
NS	180-0000-00	Varistor, USA	1
NS	180-0001-00	Thermistor, USA	1
NS	180-0002-00	Varistor, Europe	1
NS	180-0003-00	Thermistor, Europe	1



Backbox Speaker Bar Assembly
51-5010-00

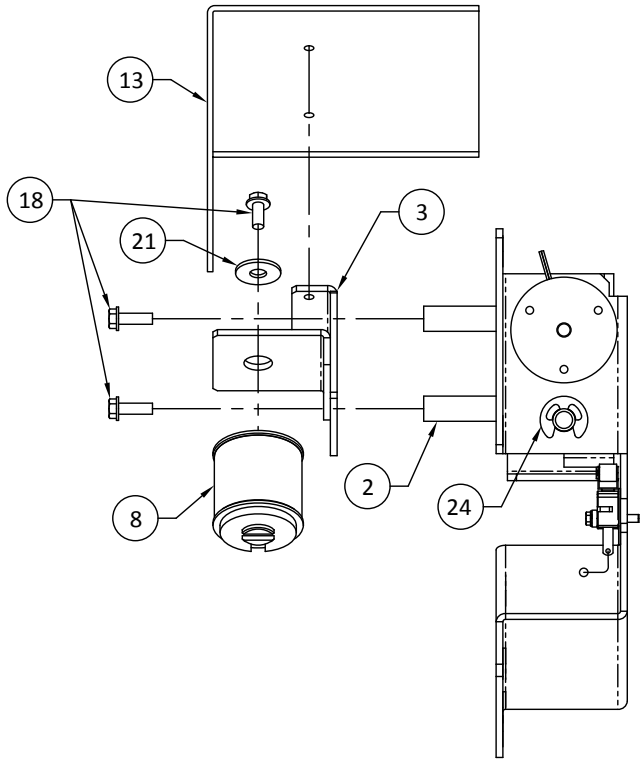
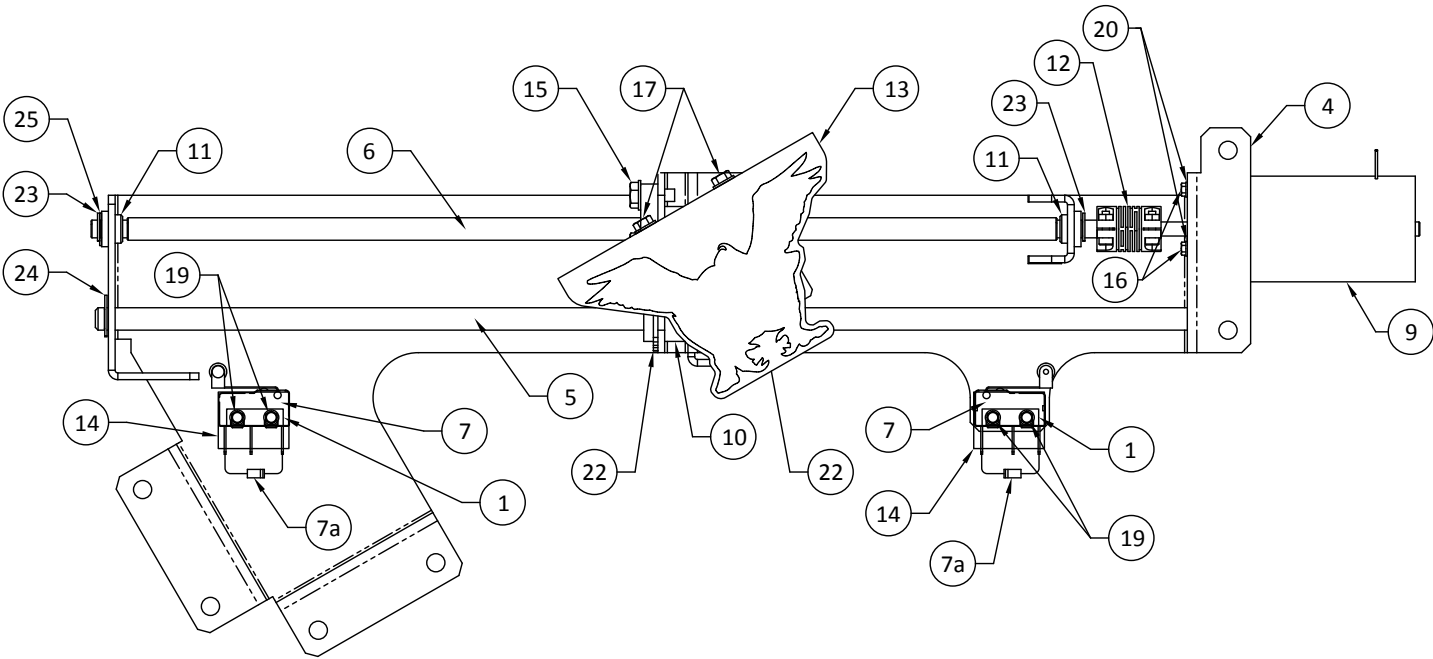


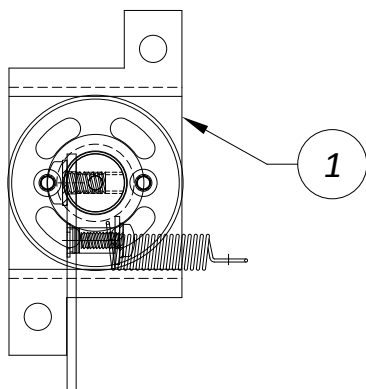
Item	Part Number	Description	Qty
1	05-3002-01	Speaker Box Enclosure	2
2	10-0066-00	Speaker Bar Housing, Black	1
3	17-6000-00	2" Mylar Dome Tweeter	2
4	17-6001-00	2.5" Full Range Speaker	4
5	22-8002-00	RCA Jack, Bulkhead, Solder	2

Item	Part Number	Description	Qty
6	82-0106-08	#6 x 1/2" PPH SMS	24
7	82-6004-08	#4 x 1/2" PFH SMS, w/Undercut	32
8	42-2002-00	Backbox Lock Assy	1
9	108-001M-250	Capacitor, 1μF, 250V, 25%, Audio Grade	2
10	70-9004-00	Acoustafom	2

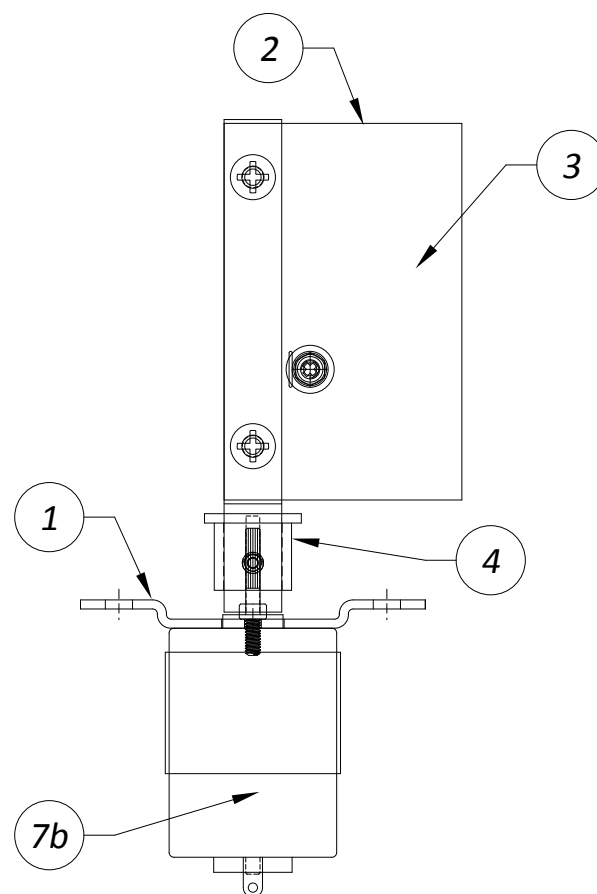
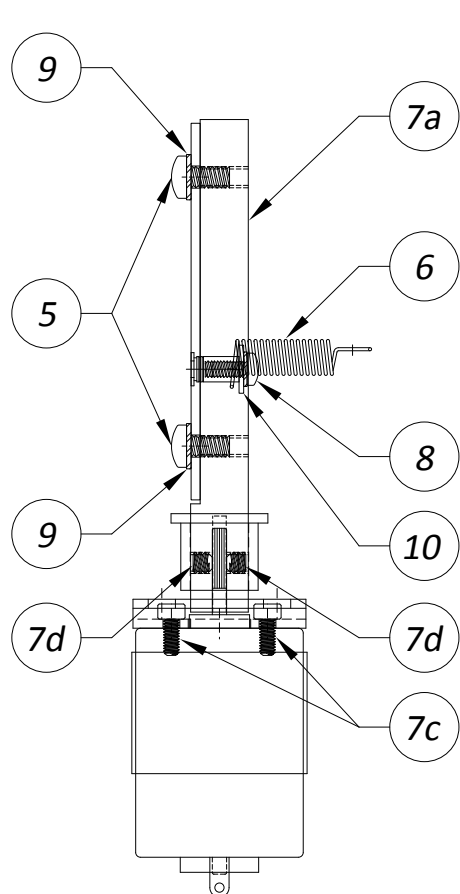
Winged Monkey Assembly
52-0003-00

Item	Part Number	Description	Qty	Item	Part Number	Description	Qty
1	10-0024-01	Microswitch Protector Plate, #2	2	15	80-6106-06	6-32 x 3/8" PFH MS, w/ Undercut	3
2	10-0073-00	Monkey Carriage Brkt	1	16	80-0102-06	2-56 x 3/8" PPH MS	3
3	10-0077-00	Monkey Magnet Coil Brkt	1	17	80-0106-04	6-32 x1/4" PPH MS, Black	2
4	10-5018-00	Monkey Motor Mtg Brkt	1	18	80-2008-04	8-32 x 1/4" HWH Phillips MS, Serrated	3
5	11-0023-00	Monkey Motor Guide Shaft	1	19	80-2102-07	2-56 x 7/16" HWH MS, Black	4
6	11-0026-00	Monkey Motor Lead Screw	1	20	92-0002-00	#2 Flat Washer	3
7	18-3005-00	Microswitch w/Roller Actuator	2	21	92-0008-00	#8 Flat Washer	1
a)	110-0002-0T	Diode, 1N4004, 400V, 1A	1	22	94-4000-08	1/2" Retaining Ring, External	2
8	23-3009-00	33-3000 Mini Magnet Coil	1	23	94-4001-02	3/16" Shaft E-Clip	2
9	23-5002-00	WOZ Winged Monkey Motor	1	24	94-4001-04	1/4" Shaft E-Clip	2
10	30-0027-00	Solid Plastic, No Lube, Linear Bearing	1	25	95-2564-58	Flat Washer, 25/64" x 5/8" x 16ga	1
11	30-0028-00	WOZ Winged Monkey Flanged Bearing	2				
12	30-0029-00	Slit Type, Plastic Coupling	1				
13	30-3000-34	WOZ Winged Monkey Plastic	1				
14	70-9002-00	Microswitch Insulator, Fish Paper	2				





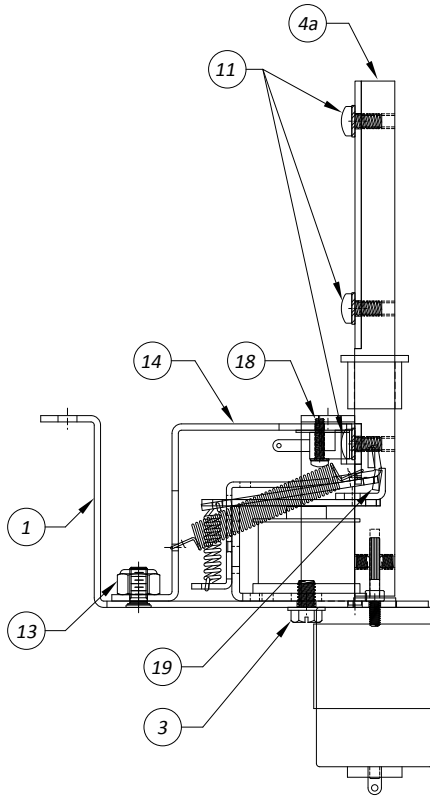
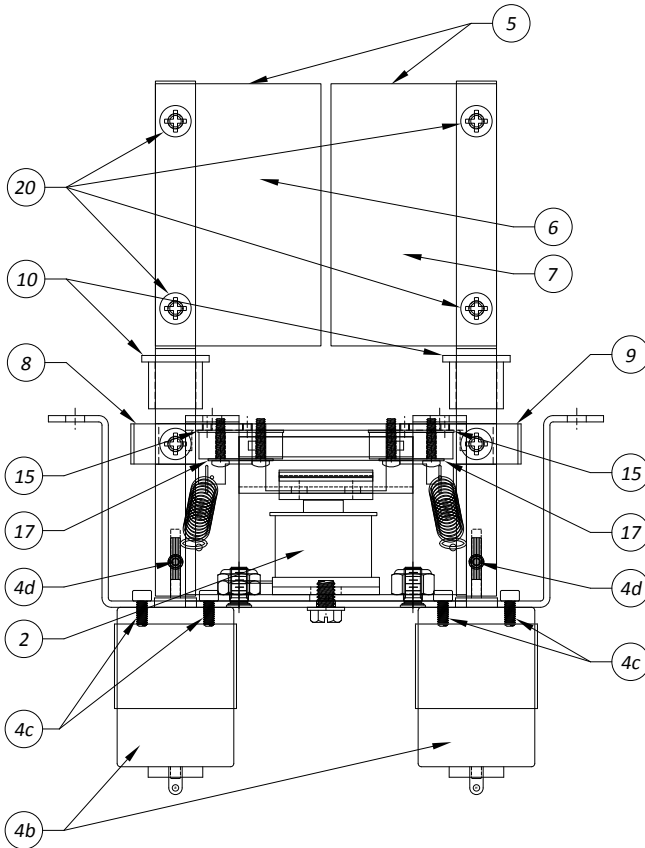
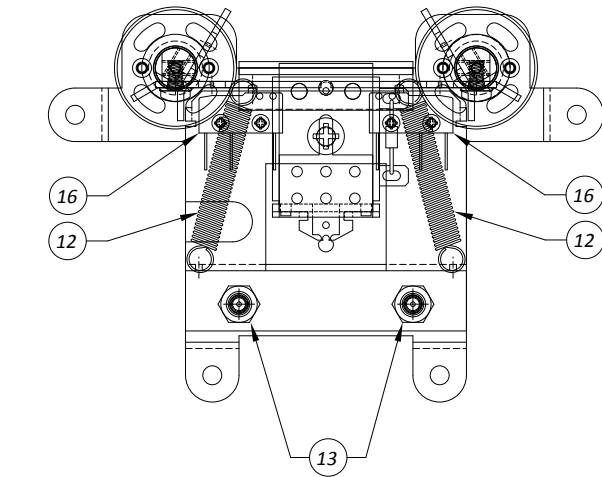
Single Door Assembly 52-0004-00

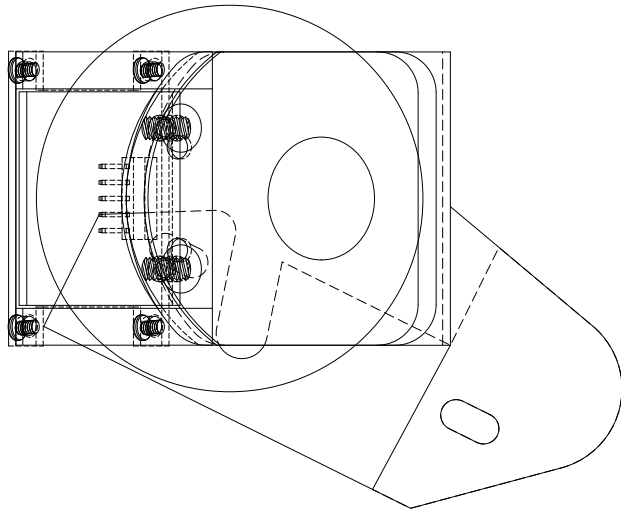


Item	Part Number	Description	Qty
1	10-5016-00	Single Door Mtg Brkt	1
2	10-0069-01	Castle Single Door, Black	1
3	62-0001-24	WOZ Single Door Decal	1
4	30-0026-00	WOZ Door Shaft Bushing	1
5	80-0106-04	6-32 x 1/4" PPH MS, Black	2
6	13-7013-00	Single Door Extension Spring	1
7	23-9001-00	WOZ Single Door Shaft & Motor Assy	1
a)	11-0024-00	WOZ Single Door Shaft	1
b)	23-5006-00	WOZ Door Motor	1
c)	80-40M2-04	M2.5 x 6mm SH MS	2
d)	85-4006-02	6-32 x 1/8" Set Screw, Cup Point, Black	1
8	80-2104-04	4-40 x 1/4" HWH MS, Black	1
9	92-3006-00	#6 Star Washer, Black	2
10	92-0004-00	#4 Flat Washer	1

Double Door Assembly
52-0005-00

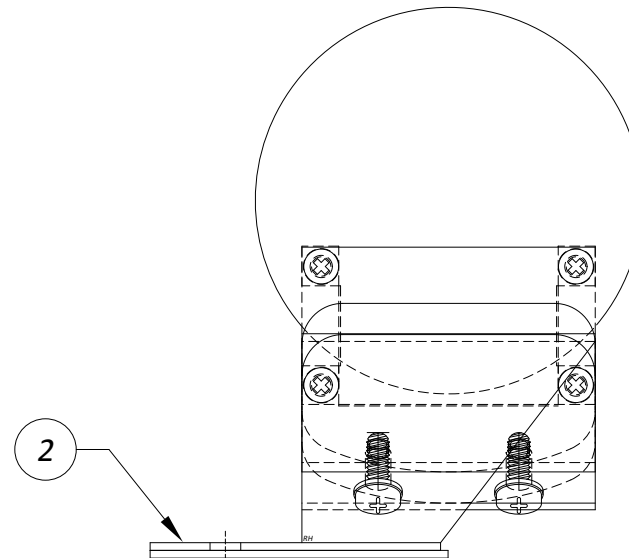
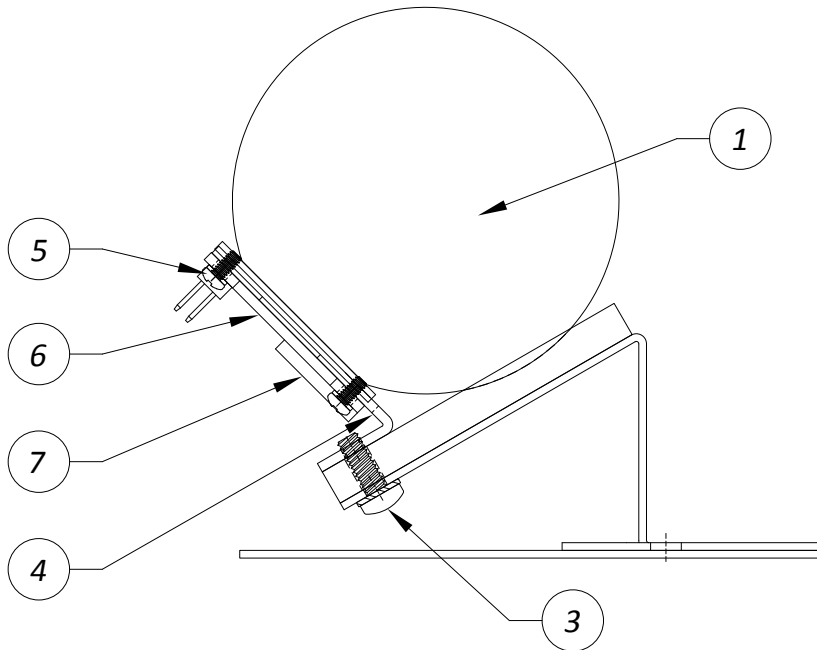
Item	Part Number	Description	Qty
1	10-5017-00	Double Door Mtg Brkt	1
2	23-3012-00	Double Door Latch Coil Assy	1
3	80-2008-04	8-32 x 1/4" HWH Phillips MS, Serrated	1
4	23-9002-00	WOZ Double Door Shaft & Motor Assy	2
a)	11-0025-00	WOZ Double Door Shaft	1
b)	23-5006-00	WOZ Door Motor	1
c)	80-40M2-04	M2.5 x 6mm SH MS	2
d)	85-4006-02	6-32 x 1/8" Set Screw, Cup Point, Black	2
5	10-0069-00	Castle Double Door, Black	2
6	62-0001-25	WOZ Double Door Decal, Left	1
7	62-0001-26	WOZ Double Door Decal, Right	1
8	10-0070-01	Castle Door Switch Actuator, Left	1
9	10-0070-00	Castle Door Switch Actuator, Right	1
10	30-0026-00	WOZ Door Shaft Bushing	2
11	80-0106-04	6-32 x1/4" PPH MS, Black	6
12	13-7012-00	Double Door Extension Spring	2
13	91-0008-00	8-32 Nylon Stop Nut	2
14	10-0072-00	Castle Door Switch Brkt	1
15	70-9002-00	Microswitch Insulator, Fish Paper	2
16	18-3009-00	Microswitch Body	2
17	10-0024-01	Microswitch Protector Plate, #2	2
18	80-2102-07	2-56 x 7/16" HWH MS, Black	4
19	25-3000-00	Double Door Stop Pad	1
20	92-3006-00	#6 Star Washer, Black	4





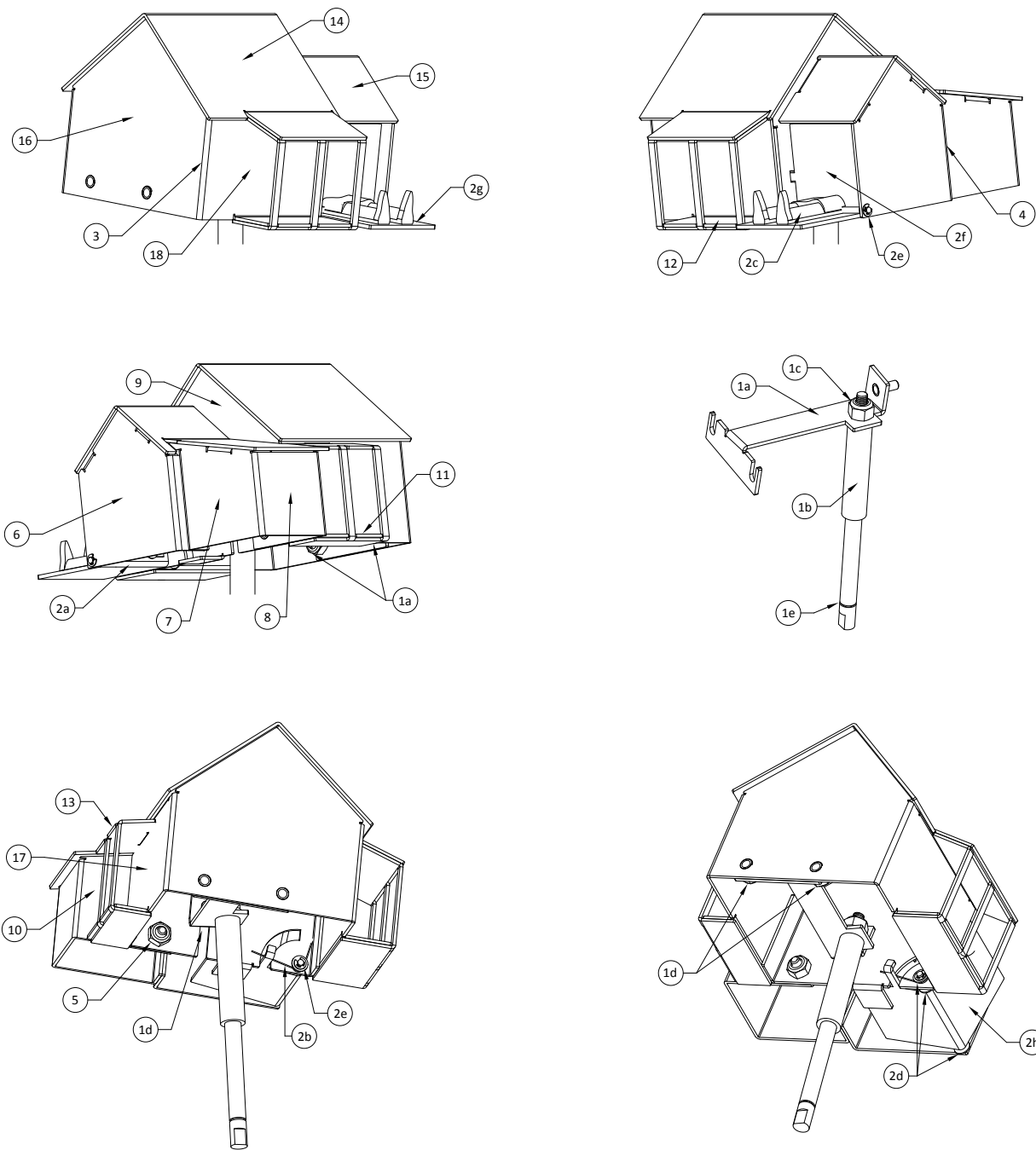
Crystal Ball Assembly 52-0006-00

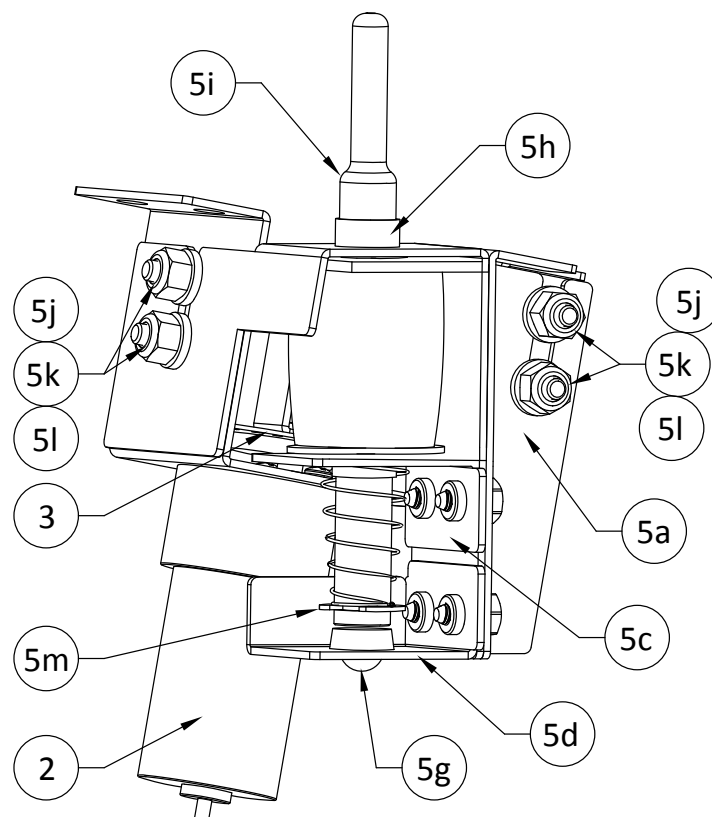
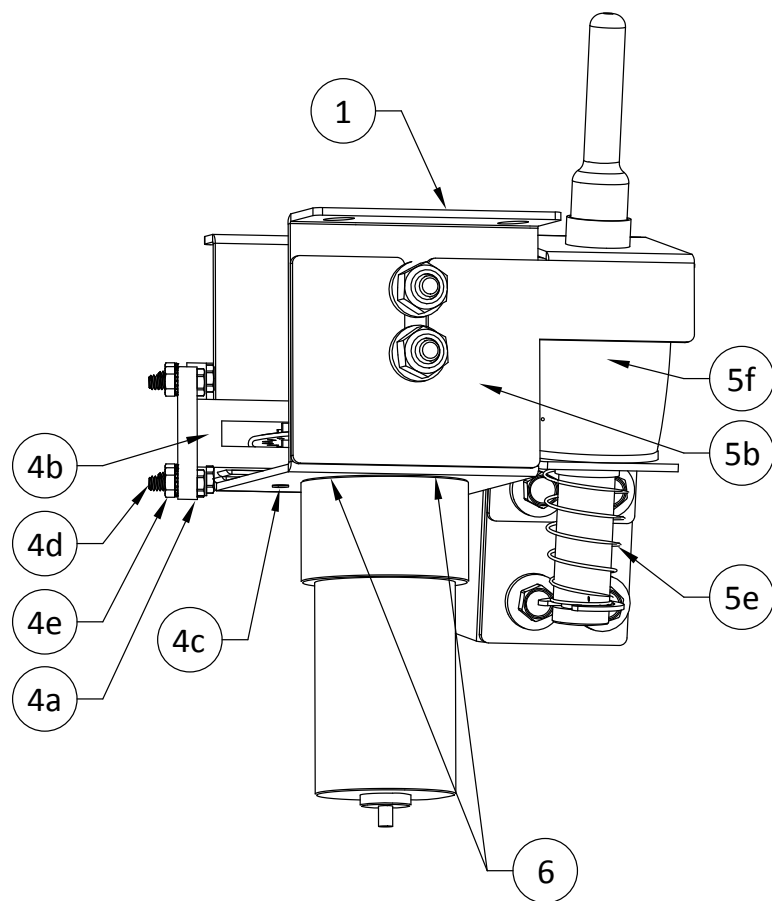
Item	Part Number	Description	Qty
1	31-5002-00	Crystal Ball Base Assy	1
2	10-0045-00	Crystal Ball Base Mtg Brkt	1
3	80-0106-06	6-32 x 3/8" PPH MS, Black	2
4	10-0098-00	Crystal Ball OLED Screen Mtg Brkt	1
5	80-00M2-4M	M2 x 4mm PPH MS	4
6	17-0001-00	0.96" OLED Screen	1
7	15-0012-01	2GB Micro SD Memory Card	1



House Top Assembly
52-0022-00

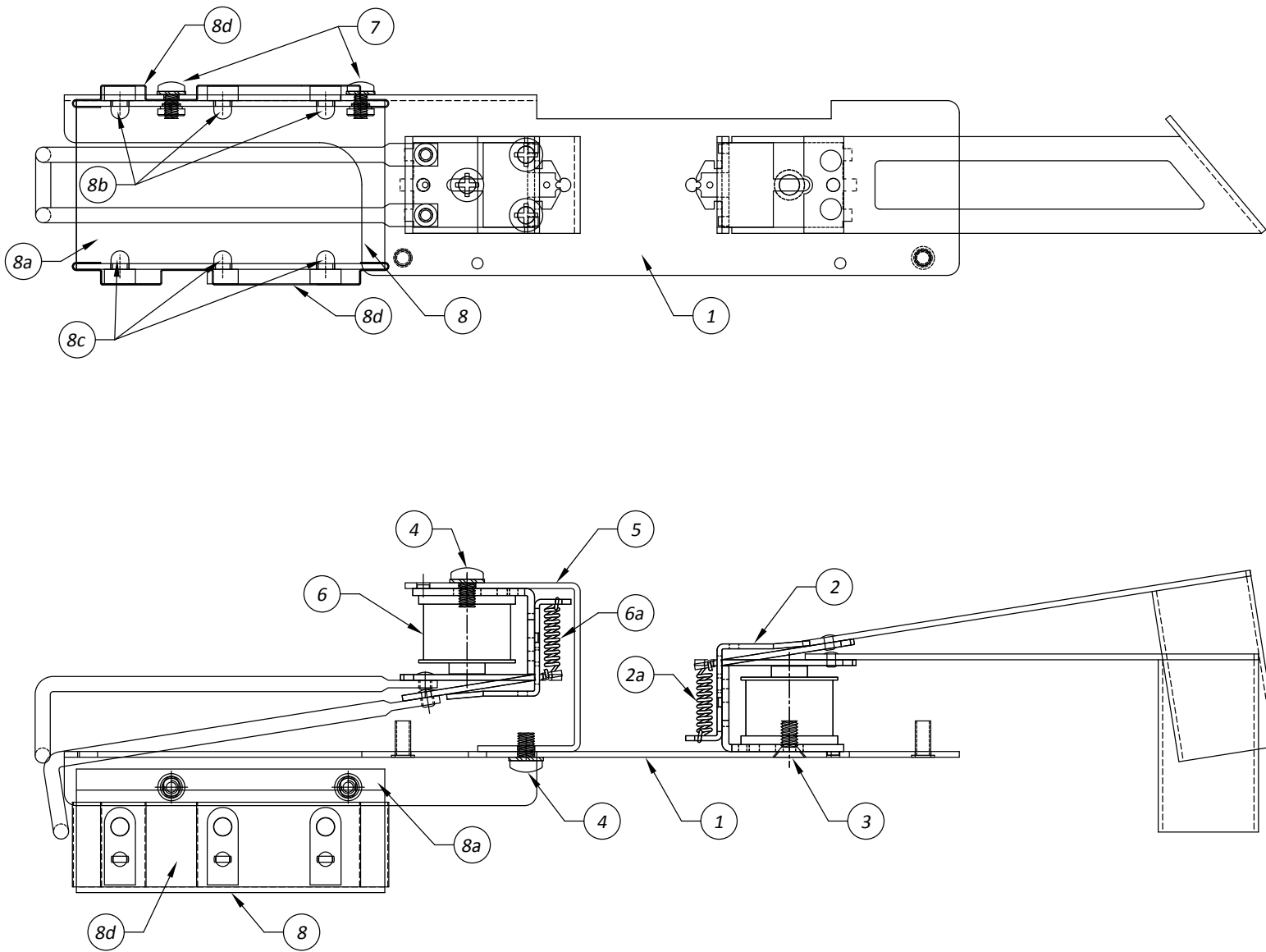
Item	Part Number	Description	Qty
1	52-0028-00	House Foundation Assy	1
a)	10-0046-00	House Angle Mtg Brkt	1
b)	11-0019-00	House Shaft	1
c)	91-0008-00	8-32 Nylon Stop Nut	1
d)	91-1006-00	6-32 Keps Nut	3
e)	94-4001-04	1/4" Shaft E-Clip	1
2	52-0027-00	House Witch Wall Assy	1
a)	10-0057-00	House Witch Wall Weldment	1
b)	13-7010-00	House Witch Wall Spring	1
c)	32-0002-00	WOZ House Witch Legs Sculpture	1
d)	92-0003-00	M3 Flat Washer	3
e)	94-4001-00	3/32" Shaft E-Clip	2
f)	62-0001-05	WOZ House Witch Wall, Inner Decal	1
g)	62-0001-06	WOZ House Witch Wall, Yellow Brick Floor Decal	1
h)	62-0001-07	WOZ House Witch Wall, Outer Decal	1
3	10-0053-00	House Weldment, Left	1
4	10-0054-00	House Weldment, Right	1
5	91-0006-00	6-32 Nylon Stop Nut	1
6	62-0001-08	WOZ House Right Side, Front Wall Decal	1
7	62-0001-09	WOZ House Right Side, Back Wall Decal	1
8	62-0001-10	WOZ House Rear Wall, Left decal	1
9	62-0001-11	WOZ House Right Side, Inner Wall Decal	1
10	62-0001-12	WOZ House Rear, Inner Left Side Wall Decal	1
11	62-0001-13	WOZ House Rear Porch, Floor Decal	1
12	62-0001-14	WOZ House Front Porch, Floor Decal	1
13	62-0001-15	WOZ House Rear Porch, Roof Decal	1
14	62-0001-16	WOZ House Large Roof Decal	1
15	62-0001-17	WOZ House Small Roof Decal	1
16	62-0001-18	WOZ House Left Wall decal	1
17	62-0001-19	WOZ House Rear Door Wall Decal	1
18	62-0001-27	WOZ House Front Door Wall Decal	1





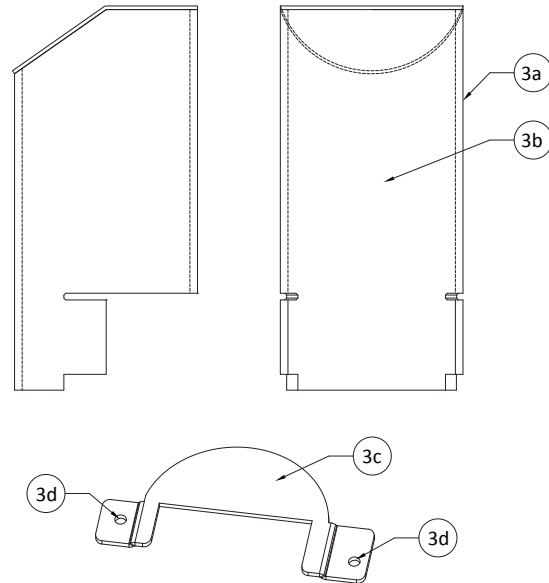
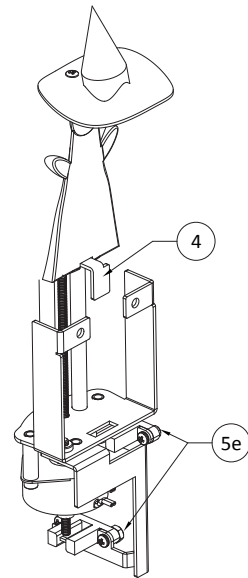
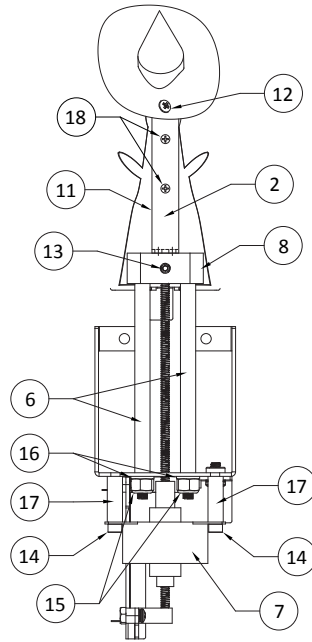
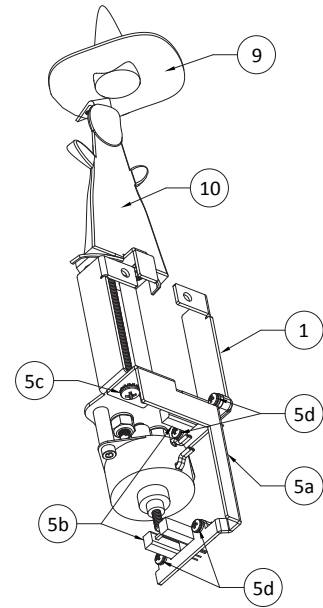
House Motor & Coil Assembly 52-0023-00

Item	Part Number	Description	Qty
1	10-0047-00	House Motor Mtg Brkt	1
2	23-5001-00	WOZ House Motor	1
3	51-0037-02	House Timing Plate Coupler Assy	1
4	52-0024-00	House Opto Assy	1
a)	10-0060-00	House Opto Mtg Brkt	1
b)	18-5000-00	U-Shaped Opto, OPB816Z	2
c)	80-2104-04	4-40 x 1/4" HWH MS, Black	2
d)	80-2104-06	4-40 x 3/8" HWH MS, Black	4
e)	91-1004-00	4-40 Keps Nut	4
5	52-0025-00	House Kicker Assy	1
a)	10-0048-00	House Kicker Coil Brkt	1
b)	10-0049-00	House Kicker Coil/Motor Union Brkt	1
c)	10-0050-00	House Kicker Coil Centering Brkt	1
d)	10-0051-00	House Kicker Coil Stop Brkt	1
e)	13-7005-00	VUK Plunger Return Spring	1
f)	23-0009-00	23-800 Lugless Coil	1
g)	25-9001-00	Rubber Bumper Plug, Black	1
h)	30-0014-30-1	1-7/8" Coil Tubing, Flanged	1
i)	11-5005-00	House Coil Plunger Assy	1
j)	80-2008-06	8-32 x 3/8" HWH Phillips MS, Serrated	4
k)	91-0008-00	8-32 Nylon Stop Nut	4
l)	92-0008-00	#8 Flat Washer	4
m)	94-4001-08	1/2" Shaft E-Clip	1
6	80-1003-03	M3 x 5mm (3/16") PPH MS, SEMS	3



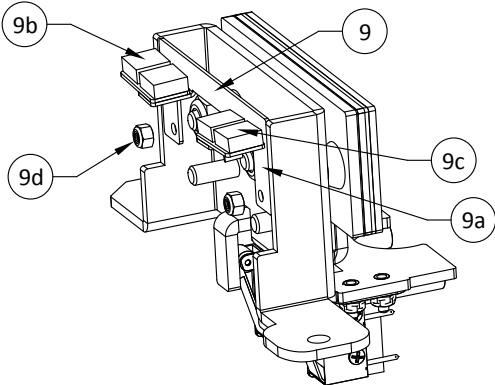
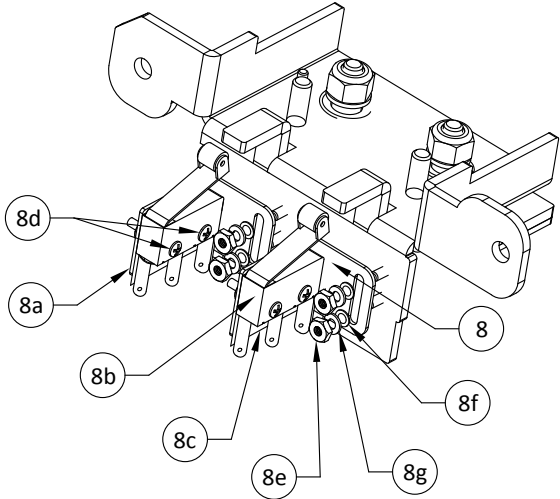
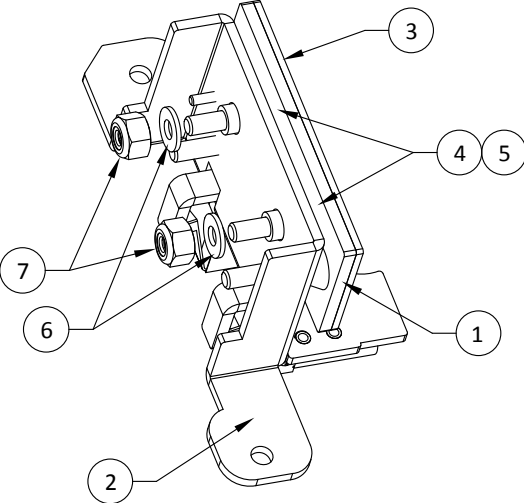
3-Ball Lock/Diverter Assembly
52-0029-00

Item	Part Number	Description	Qty
1	10-5015-00	Ball Lock/Diverter Mtg Plate	1
2	23-3011-00	Diverter Mini Coil Assy	1
a)	13-7016-00	Diverter Coil Spring	1
3	80-6008-04	8-32 x 1/4" PFH MS, w/ Undercut	1
4	80-1008-04	8-32 x 1/4" PPH MS	3
5	10-7011-00	Ball Lock Mtg Brkt	1
6	23-3010-00	Ball Lock Mini Coil Assy	1
a)	13-7015-00	Ball Lock Coil Spring	1
7	80-2006-04	6-32 x 1/4" HWH Phillips MS, Serrated	2
8	51-0033-00	3-Ball Lock/Diverter Opto Assy	1
a)	10-0059-00	Ramp Opto Mtg Brkt, Black	1
b)	18-5001-00	Infrared LED Assy	3
c)	18-5001-01	Phototransistor Assy	3
d)	10-0090-00	Ramp Opto Shield	2



Witch Motor & Shaft Assembly 52-0031-00

Item	Part Number	Description	Qty
1	10-0075-00	Witch Motor Mtg Brkt	1
2	10-0100-00	Witch Hat Holder Brkt	1
3	31-5006-00	Witch Tube Assy	1
a)	30-0030-00	Witch Tube, Clear	1
b)	62-0004-00	WOZ Witch Tube Decal	1
c)	10-0102-00	Witch Tube Protector Brkt	1
d)	91-0008-00	8-32 Nylon Stop Nut	2
4	10-0101-00	Witch Flag Brkt	1
5	52-0030-00	Witch Opto Assy	1
a)	10-0074-00	Witch Opto Brkt	1
b)	18-5000-00	U-Shaped Opto, OPB816Z	2
c)	80-2008-04	8-32 x 1/4" HWH Phillips MS, Serrated	1
d)	80-2104-06	4-40 x 3/8" HWH MS, Black	4
e)	91-1004-00	4-40 Keps Nut	4
6	11-0022-00	Witch Motor Guide Shaft	2
7	23-5005-00	WOZ Witch Stepper Motor w/ Lead Screw	1
8	30-0035-00	Witch Elevator Block	1
9	32-0009-00	Witch Hat Sculpture	1
10	32-0010-00	Witch Figure Sculpture	1
11	30-0044-00	Witch Plastic Spacer	2
12	80-0004-04	4-40 x 1/4" PPH MS	1
13	80-8108-03	8-32 x 3/16" Set Screw, Cup Point	1
14	90-4005-06	5-40 x 3/8" SH CS	2
15	91-0008-00	8-32 Nylon Stop Nut	2
16	92-0008-00	#8 Flat Washer	2
17	94-3004-12	1/4" x 3/4" Round Spacer, F-F, 4-40/6-32	2
18	82-0004-06	#4 x 3/8" PPH SMS	2



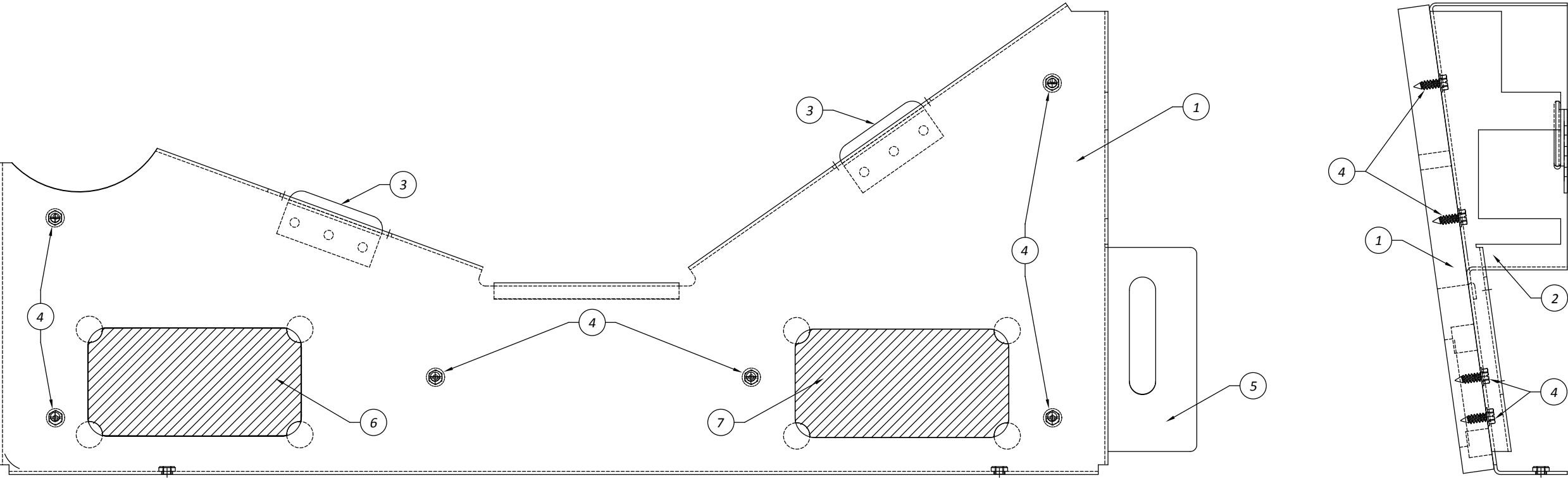
Witch Front Plate & Switch Assembly 52-0032-00

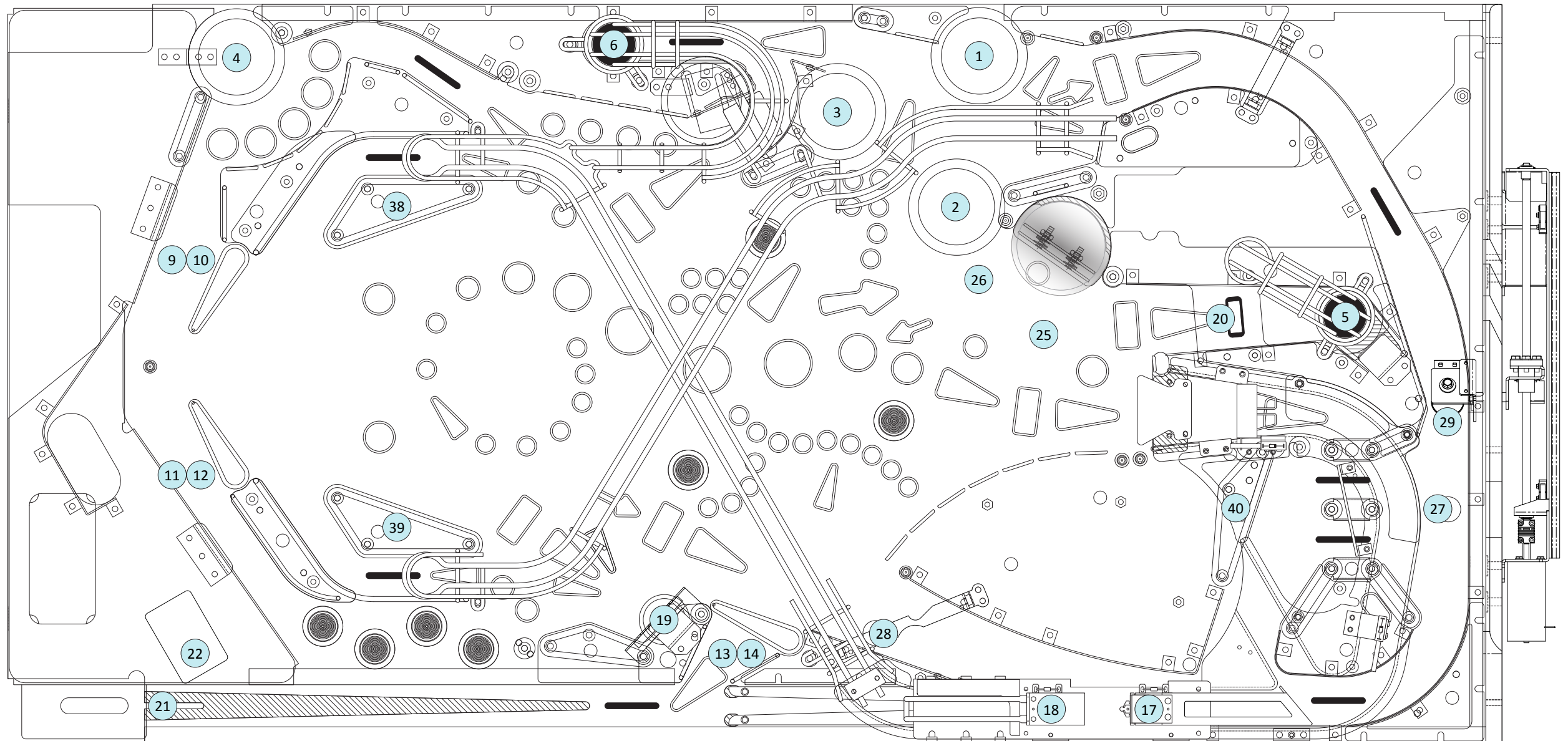
Item	Part Number	Description	Qty
1	10-0076-00	Witch Front Switch Impact Brkt	1
2	10-5019-00	Witch Front Switch Plate Brkt	1
3	25-9004-00	Silicon Bumper Pad	1
4	13-7003-00	Pop Bumper Skirt Spring	2
5	94-3003-00	Nylon Spacer, 1/4" OD, 5/16" Length	2
6	92-0008-00	#8 Flat Washer	2
7	91-0008-00	8-32 Nylon Stop Nut	2
8	18-7011-00	Witch Switch Plate Assy	2
a)	10-0085-00	Witch Switch Mtg Brkt	2
b)	18-3005-00	Microswitch w/Roller Actuator	2
c)	70-9002-00	Microswitch Insulator, Fish Paper	2
d)	80-2102-08	2-56 x 1/2" HWH MS	4
e)	91-2002-00	2-56 Hex Nut	8
f)	92-0002-00	#2 Flat Washer	8
g)	92-1002-00	#2 Split Lock Washer	8
9	52-0034-00	Witch LED Plate Assy	1
a)	10-0081-00	Witch LED Mtg Brkt	1
b)	24-0000-02	Red Single LD-1 LED	1
c)	24-0000-13	Cool White Single LD-1 LED	1
d)	91-0002-00	2-56 Nylon Stop Nut	2

WOZ Bottom Arch Assemblies

52-0035-00, 52-0035-01, 52-0035-02

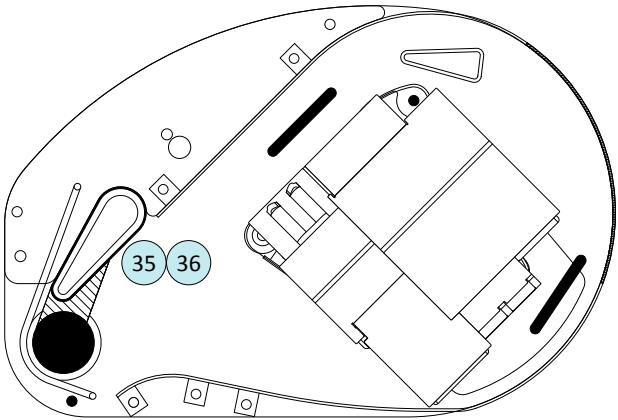
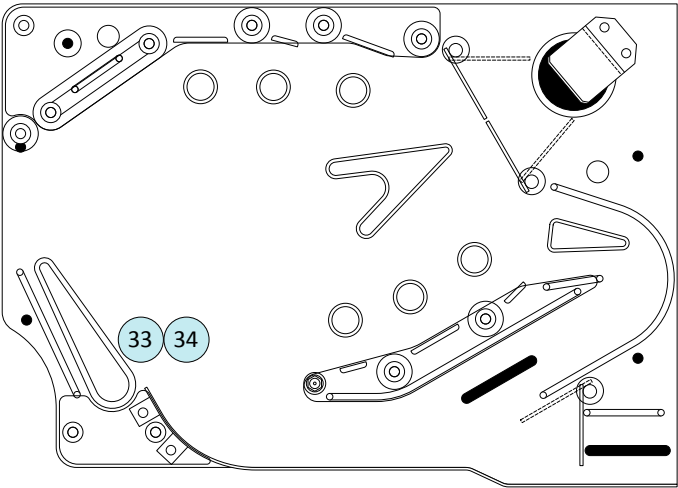
Item		Part Number	Description	Qty
1	LE	05-3001-00	WOZ ECLE Bottom Arch Topper, Wood	1
	Std	62-0007-00	WOZ Bottom Arch Decal, Emerald Green	1
	75	62-0007-01	WOZ 75 th Anniversary Bottom Arch Decal	1
2		10-0091-00	WOZ Bottom Arch, Bumper Cutout, Black	1
3		10-0092-00	Bottom Arch Retainer Brkt, Black	2
4	LE	82-2008-08	#8 x 1/2" HWH Phillips SMS	6
5	LE	62-0001-21	WOZ Shooter Gauge Decal, Emerald Green	1
	Std	62-0001-21	WOZ Shooter Gauge Decal, Emerald Green	1
	75	62-0001-21R	WOZ Shooter Gauge Decal, Ruby Red	1
6	LE	64-0001-00	WOZ Limited Edition Plaque	1
7		71-0003-00	Coinage Card, \$1.00	1

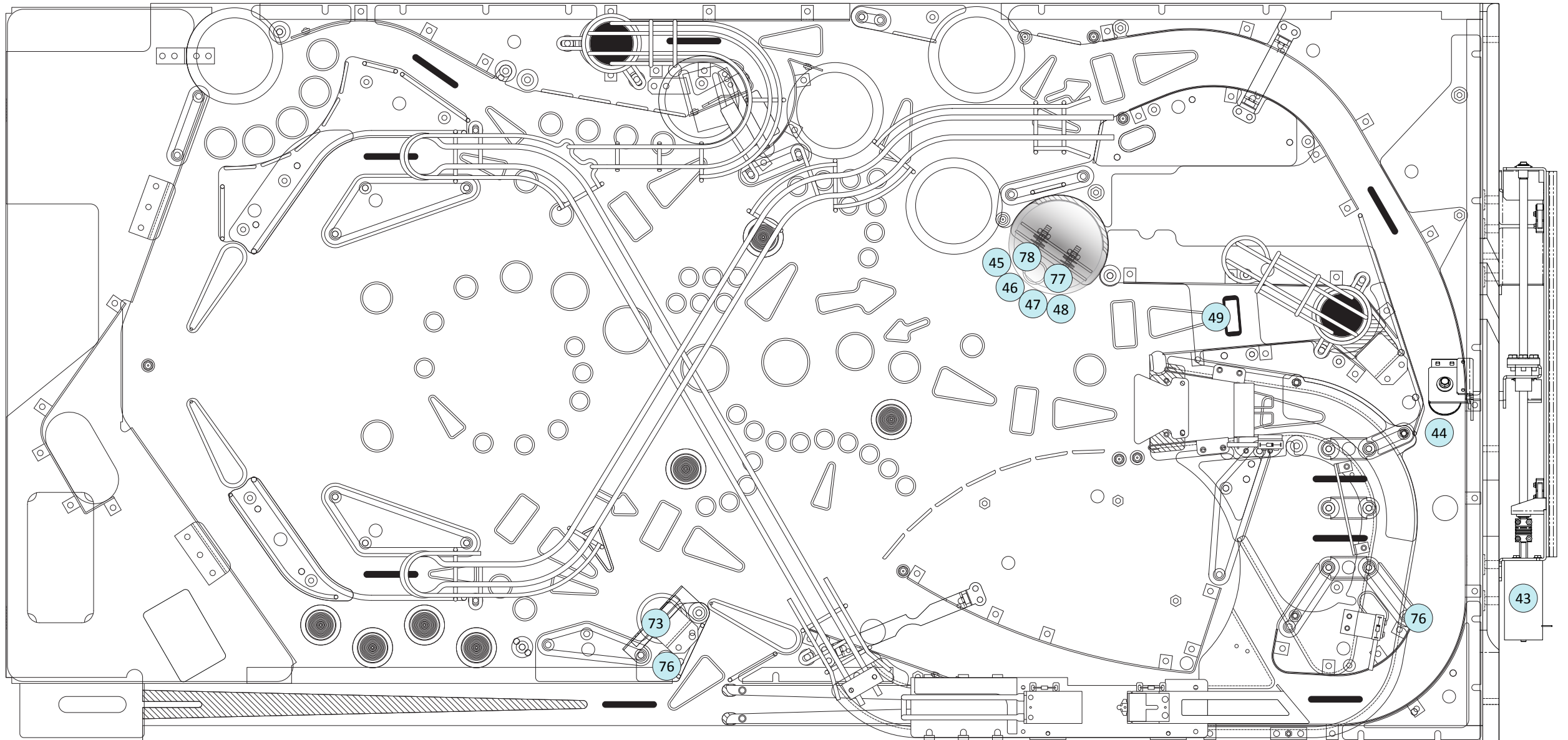




70-Volt Coil Locations

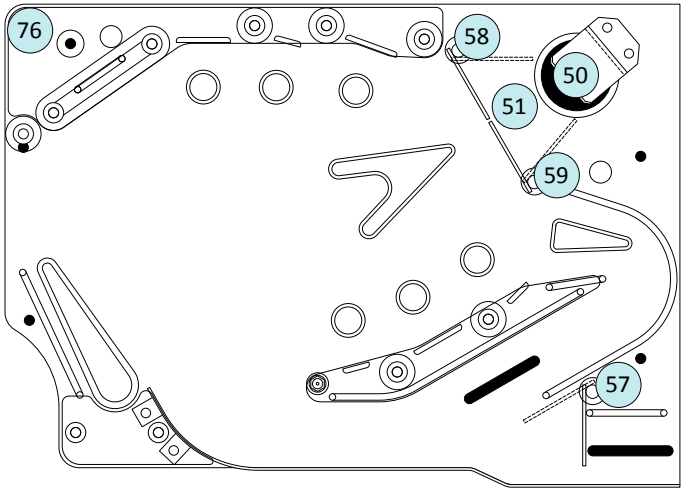
Drive	Coil Function	Part Number	Part of Assembly	Drawing
1	Left Tree Bumper	23-0003-00	51-0004-00	C-23
2	Right Tree Bumper	23-0003-00	51-0004-00	C-23
3	Center Tree Bumper	23-0003-00	51-0004-00	C-23
4	State Fair Balloon Bumper	23-0003-00	51-0004-00	C-23
5	Winkie Guard VUK	23-0003-00	51-0009-00	C-25
6	Crystal Ball VUK	23-0003-00	51-0009-00	C-25
9	Left Flipper Power	23-2002-00	51-0002-00	C-21
10	Left Flipper Hold	23-2002-00	51-0002-00	C-21
11	Right Flipper Power	23-2002-00	51-0001-00	C-20
12	Right Flipper Hold	23-2002-00	51-0001-00	C-20
13	Upper Right Flipper Power	23-2000-00	51-0001-00	C-20
14	Upper Right Flipper Hold	23-2000-00	51-0001-00	C-20
17	Ball Diverter	23-3011-00	52-0029-00	C-42
18	Ramp Ball Lock	23-3010-00	52-0029-00	C-42
19	Throne Room VUK	23-0003-00	51-0009-00	C-25
20	Winkie Guard Drop Target Reset (Up)	23-0003-00	51-0013-00	C-26
21	Ball Auto-Launch	23-0003-00	51-0026-00	C-29
22	5-Ball Trough VUK	23-0003-00	51-0021-00	C-27
25	Witch Top Magnet	23-4005-00	51-0024-01	C-28
26	Witch Bottom Magnet	23-4005-00	51-0024-01	C-28
27	Top Lanes Magnet	23-4005-00	51-0024-00	C-28
28	Right Orbit Magnet	23-4005-00	51-0024-00	C-28
29	Monkey Magnet (On Back Panel)	23-3009-00	52-0003-00	C-36
33	Castle Flipper Power	23-2000-00	51-0001-00	C-20
34	Castle Flipper Hold	23-2000-00	51-0001-00	C-20
35	Munchkinland Flipper Power	23-2000-00	51-0002-11	C-21
36	Munchkinland Flipper Hold	23-2000-00	51-0002-11	C-21
38	Left Slingshot	23-0003-00	51-0003-00	C-22
39	Right Slingshot	23-0003-00	51-0003-00	C-22
40	Top Lanes Slingshot	23-0003-00	51-0003-00	C-22





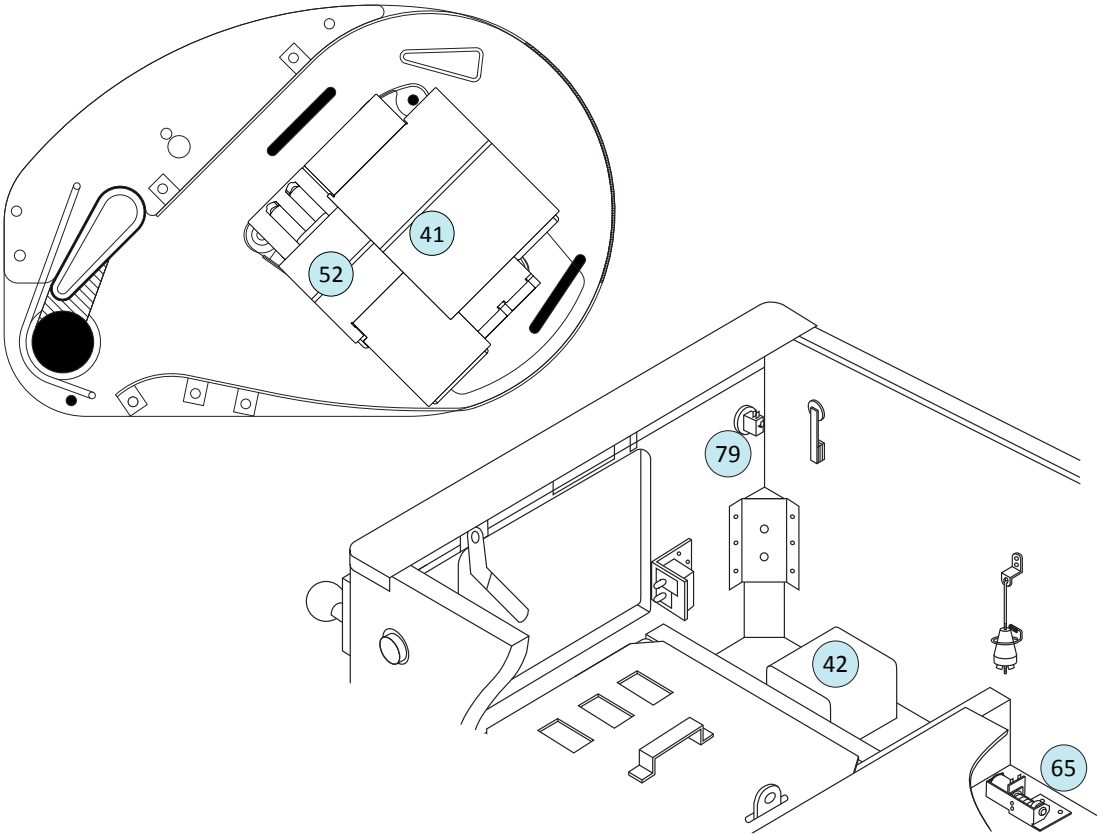
20-Volt Coil & Motor Locations

Drive	Function	Part Number	Part of Assembly	Drawing
49	Winkie Guard Drop Target Retract (Down)	23-3013-00	51-0013-00	C-26
50	Castle Doors VUK	23-0003-00	51-0009-00	C-25
51	Castle Double Doors Latch	23-3012-00	52-0005-00	C-38
52	House Wall Drop	23-0009-00	52-0023-00	C-41
57	Castle Single Door Motor	23-5006-00	52-0004-00	C-37
58	Castle Double Doors Motor, Left	23-5006-00	52-0005-00	C-38
59	Castle Double Doors Motor, Right	23-5006-00	52-0005-00	C-38
65	Knocker	23-0003-00	51-0032-00	C-32



12-Volt Motor, Relay & Light Locations

Drive	Function	Part Number	Part of Assembly	Drawing
41	House Motor	23-5001-00	52-0023-00	C-41
42	Shaker Motor	23-5003-00	51-5027-01	C-30
43	Monkey Motor (On Back Panel)	23-5002-00	52-0003-00	C-36
44	Monkey Motor Relay (Under Playfield)	160-0000-0T	15-0009-00	D-115
45	Witch Stepper Motor 1	23-5005-00	52-0031-00	C-43
46	Witch Stepper Motor 2	23-5005-00	52-0031-00	C-43
47	Witch Stepper Motor 3	23-5005-00	52-0031-00	C-43
48	Witch Stepper Motor 4	23-5005-00	52-0031-00	C-43
73	Oz Head Light	24-0001-05	51-0034-00	C-32
74 LE	Topper Light (On Top of Backbox)	24-5000-01	31-5003-01	C-18
Std	Topper Light	24-5000-00	31-5003-00	C-18
75	Topper Light	24-5000-02	31-5003-02	C-18
76	Spotlights (3 Total)	30-0047-00	-	-
77	Witch LED, Right	24-0000-02	52-0032-00	C-44
78	Witch LED, Left	24-0000-13	52-0032-00	C-44
79	Start Button Light	24-0017-00	18-7005-00	-

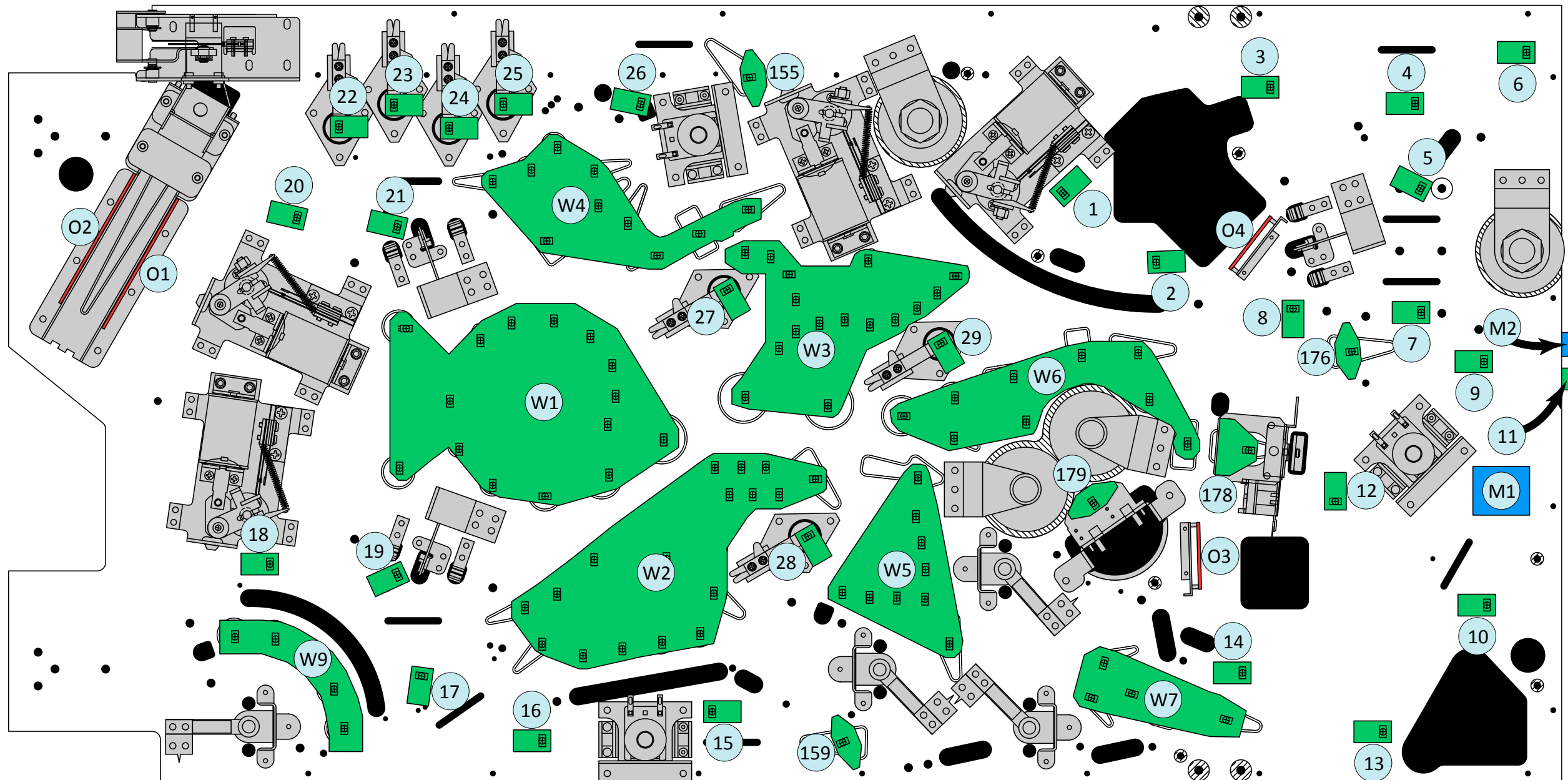


Coil, Motor & Light Table (1 of 2)

Drive #	Coil Function	Coil Type	I/O Bd Power Source	I/O Bd Drive Details	Fuses	Part Number	Part of Assembly	Drawing
1	Left Tree Bumper	23-800	BRN, J104-1, 70V	BRN-BLK, J104-9, Q308	F701, F704	23-0003-00	51-0004-00	C-23
2	Right Tree Bumper	23-800	BRN, J104-1, 70V	BRN-GRY, J104-8, Q307	F701, F704	23-0003-00	51-0004-00	C-23
3	Center Tree Bumper	23-800	BRN, J104-1, 70V	BRN-RED, J104-7, Q306	F701, F704	23-0003-00	51-0004-00	C-23
4	State Fair Balloon Bumper	23-800	BRN, J104-1, 70V	BRN-ORN, J104-6, Q305	F701, F704	23-0003-00	51-0004-00	C-23
5	Winkie Guard VUK	23-800	BRN, J104-1, 70V	BRN-YEL, J104-5, Q304	F701, F704	23-0003-00	51-0009-00	C-25
6	Crystal Ball VUK	23-800	BRN, J104-1, 70V	BRN-GRN, J104-4, Q303	F701, F704	23-0003-00	51-0009-00	C-25
7-8	Not Used	-	-	-	-	-	-	-
9	Left Flipper Power	FL-11629	BRN, J104-1, 70V	RED-BLK, J105-10, Q318	F701, F705	23-2002-00	51-0002-00	C-21
10	Left Flipper Hold	FL-11629	RED, J105-1, 70V	RED-BRN, J105-8, Q317	F701, F705	23-2002-00	51-0002-00	C-21
11	Right Flipper Power	FL-11629	RED, J105-1, 70V	RED-GRY, J105-7, Q316	F701, F705	23-2002-00	51-0001-00	C-20
12	Right Flipper Hold	FL-11629	RED, J105-1, 70V	RED-ORN, J105-6, Q315	F701, F705	23-2002-00	51-0001-00	C-20
13	Upper Right Flipper Power	FL-11629	RED, J105-1, 70V	RED-YEL, J105-5, Q314	F701, F705	23-2002-00	51-0001-00	C-20
14	Upper Right Flipper Hold	FL-11629	RED, J105-1, 70V	RED-GRN, J105-4, Q313	F701, F705	23-2002-00	51-0001-00	C-20
15-16	Not Used	-	-	-	-	-	-	-
17	Ball Diverter	mini	ORN, J106-1, 70V	ORN-BLK, J106-10, Q328	F701, F706	23-3011-00	52-0029-00	C-42
18	Ramp Ball Lock	mini	ORN, J106-1, 70V	ORN-BRN, J106-9, Q327	F701, F706	23-3010-00	52-0029-00	C-42
19	Throne Room VUK	23-800	ORN, J106-1, 70V	ORN-RED, J106-7, Q326	F701, F706	23-0003-00	51-0009-00	C-25
20	Winkie Guard Drop Tgt Reset (Up)	23-800	ORN, J106-1, 70V	ORN-GRY, J106-6, Q325	F701, F706	23-0003-00	51-0013-00	C-26
21	Ball Auto-Launch	23-800	ORN, J106-1, 70V	ORN-YEL, J106-5, Q324	F701, F706	23-0003-00	51-0026-00	C-29
22	5-Ball Trough VUK	23-800	ORN, J106-1, 70V	ORN-GRN, J106-4, Q323	F701, F706	23-0003-00	51-0021-00	C-27
23-24	Not Used	-	-	-	-	-	-	-
25	Witch Top Magnet	22-675, Magnet	TAN, J107-1, 70V	TAN-BLK, J107-10, Q338	F702, F707	23-4005-00	51-0024-01	C-28
26	Witch Bottom Magnet	22-675, Magnet	TAN, J107-1, 70V	TAN-BRN, J107-9, Q337	F702, F707	23-4005-00	51-0024-01	C-28
27	Top Lanes Magnet	22-675, Magnet	TAN, J107-1, 70V	TAN-RED, J107-8, Q336	F702, F707	23-4005-00	51-0024-00	C-28
28	Right Orbit Magnet	22-675, Magnet	TAN, J107-1, 70V	TAN-ORN, J107-6, Q335	F702, F707	23-4005-00	51-0024-00	C-28
29	Monkey Magnet	33-3000, mini	TAN, J107-1, 70V	TAN-YEL, J107-5, Q334	F702, F707	23-3009-00	52-0003-00	C-36
30-32	Not Used	-	-	-	-	-	-	-
33	Castle Flipper Power	FL-11722	PNK, J108-1, 70V	PNK-BLK, J108-10, Q408	F702, F708	23-2000-00	51-0001-00	C-20
34	Castle Flipper Hold	FL-11722	PNK, J108-1, 70V	PNK-BRN, J108-9, Q407	F702, F708	23-2000-00	51-0001-00	C-20
35	Munchkinland Flipper Power	FL-11722	PNK, J108-1, 70V	PNK-RED, J108-8, Q406	F702, F708	23-2000-00	51-0002-11	C-21
36	Munchkinland Flipper Hold	FL-11722	PNK, J108-1, 70V	PNK-ORN, J108-7, Q405	F702, F708	23-2000-00	51-0002-11	C-21
37	Not Used	-	-	-	-	-	-	-

Coil, Motor & Light Table (2 of 2)

Drive #	Coil Function	Coil Type	I/O Bd Power Source	I/O Bd Drive Details	Fuses	Part Number	Part of Assembly	Drawing
38	Left Slingshot	23-800	PNK, J108-1, 70V	PNK-GRN, J108-4, Q403	F702, F708	23-0003-00	51-0003-00	C-22
39	Right Slingshot	23-800	PNK, J108-1, 70V	PNK-BLU, J108-3, Q402	F702, F708	23-0003-00	51-0003-00	C-22
40	Top Lanes Slingshot	23-800	PNK, J108-1, 70V	PNK-VIO, J108-2, Q401	F702, F708	23-0003-00	51-0003-00	C-22
41	House Motor	Motor	YEL, J109-1, 12V	YEL-BLK, J109-2, Q411	F714, F709	23-5001-00	52-0023-00	C-41
42	Shaker Motor	Motor	YEL, J109-1, 12V	YEL-BRN, J109-3, Q412	F714, F709	23-5003-00	51-5027-01	C-30
43	Monkey Motor	Motor	YEL, J109-1, 12V	YEL-RED, J109-4, Q413	F714, F709	23-5002-00	52-0003-00	C-36
44	Monkey Motor Relay	Relay	YEL, J109-1, 12V	YEL-ORN, J109-6, Q414	F714, F709	160-0000-0T	15-0009-00	D-115
45	Witch Stepper Motor 1	Motor	YEL, J109-1, 12V	YEL-GRY, J109-7, Q415	F714, F709	23-5005-00	52-0031-00	C-43
46	Witch Stepper Motor 2	Motor	YEL, J109-1, 12V	YEL-GRN, J109-8, Q416	F714, F709	23-5005-00	52-0031-00	C-43
47	Witch Stepper Motor 3	Motor	YEL, J109-1, 12V	YEL-BLU, J109-9, Q417	F714, F709	23-5005-00	52-0031-00	C-43
48	Witch Stepper Motor 4	Motor	YEL, J109-1, 12V	YEL-VIO, J109-10, Q418	F714, F709	23-5005-00	52-0031-00	C-43
49	Winkie Guard Drop Tgt Retract (Down)	mini	PLM, J110-1, 20V	PLM-BLK, J110-2, Q421	F703, F710	23-3013-00	51-0013-00	C-26
50	Castle Doors VUK	23-800	PLM, J110-1, 20V	PLM-BRN, J110-3, Q422	F703, F710	23-0003-00	51-0009-00	C-25
51	Castle Double Doors Latch	mini	PLM, J110-1, 20V	PLM-RED, J110-5, Q423	F703, F710	23-3012-00	52-0005-00	C-38
52	House Wall Drop	23-800, lugless	PLM, J110-1, 20V	PLM-ORN, J110-6, Q424	F703, F710	23-0009-00	52-0023-00	C-41
53-56	Not Used	-	-	-	-	-	-	-
57	Castle Single Door Motor	Motor	BLU, J111-1, 20V	BLU-BLK, J111-2, Q431	F703, F711	23-5006-00	52-0004-00	C-37
58	Castle Double Doors Motor, Left	Motor	BLU, J111-1, 20V	BLU-BRN, J111-4, Q432	F703, F711	23-5006-00	52-0005-00	C-38
59	Castle Double Doors Motor, Right	Motor	BLU, J111-1, 20V	BLU-RED, J111-5, Q433	F703, F711	23-5006-00	52-0005-00	C-38
60-64	Not Used	-	-	-	-	-	-	-
65	Knocker	23-800	VIO, J112-1, 20V	VIO-BLK, J112-3, Q501	F703, F712	23-0003-00	51-0032-00	C-32
66-72	Not Used	-	-	-	-	-	-	-
73	Oz Head Light	LED Strip	LT BLU, J113-2, 12V	LT BLU-BLK, J113-3, Q511	F714, F713	24-0001-05	51-0034-00	C-32
74	Topper Light (On Top of Backbox)	LED Strip	LT BLU, J113-2, 12V	LT BLU-BRN, J113-4, Q512	F714, F713	24-5000-0X	31-5003-0X	C-18
75	Not Used	-	-	-	-	-	-	-
76	Spotlights (3 Total)	LEDs (3)	LT BLU, J113-2, 12V	LT BLU-ORN, J113-6, Q514	F714, F713	30-0047-00	-	-
77	Witch LED, Right	LED	LT BLU, J113-2, 12V	LT BLU-YEL, J113-7, Q515	F714, F713	24-0000-02	52-0032-00	C-44
78	Witch LED, Left	LED	LT BLU, J113-2, 12V	LT BLU-GRN, J113-8, Q516	F714, F713	24-0000-13	52-0032-00	C-44
79	Start Button Light	LED	LT BLU, J113-2, 12V	LT BLU-GRY, J113-9, Q517	F714, F713	24-0017-00	18-7005-00	-
80	Not Used	-	-	-	-	-	-	-

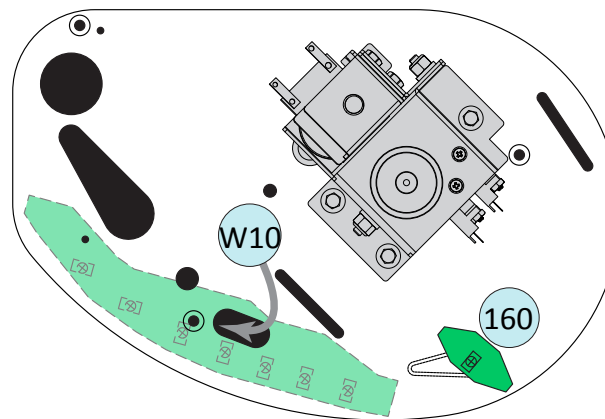
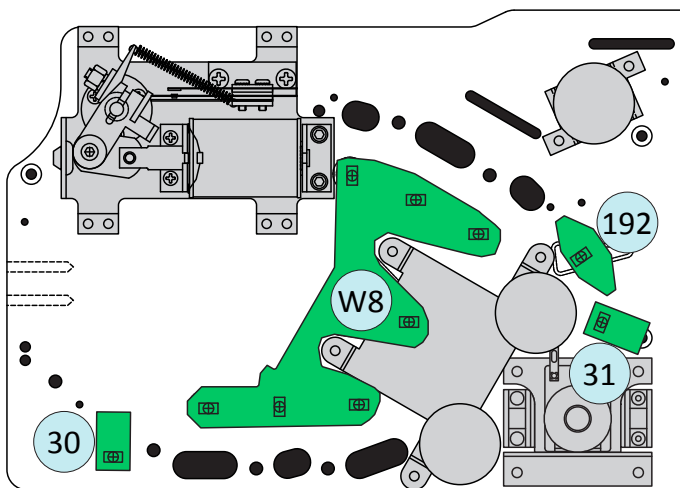


Color Key:

Green - RGB LED Boards

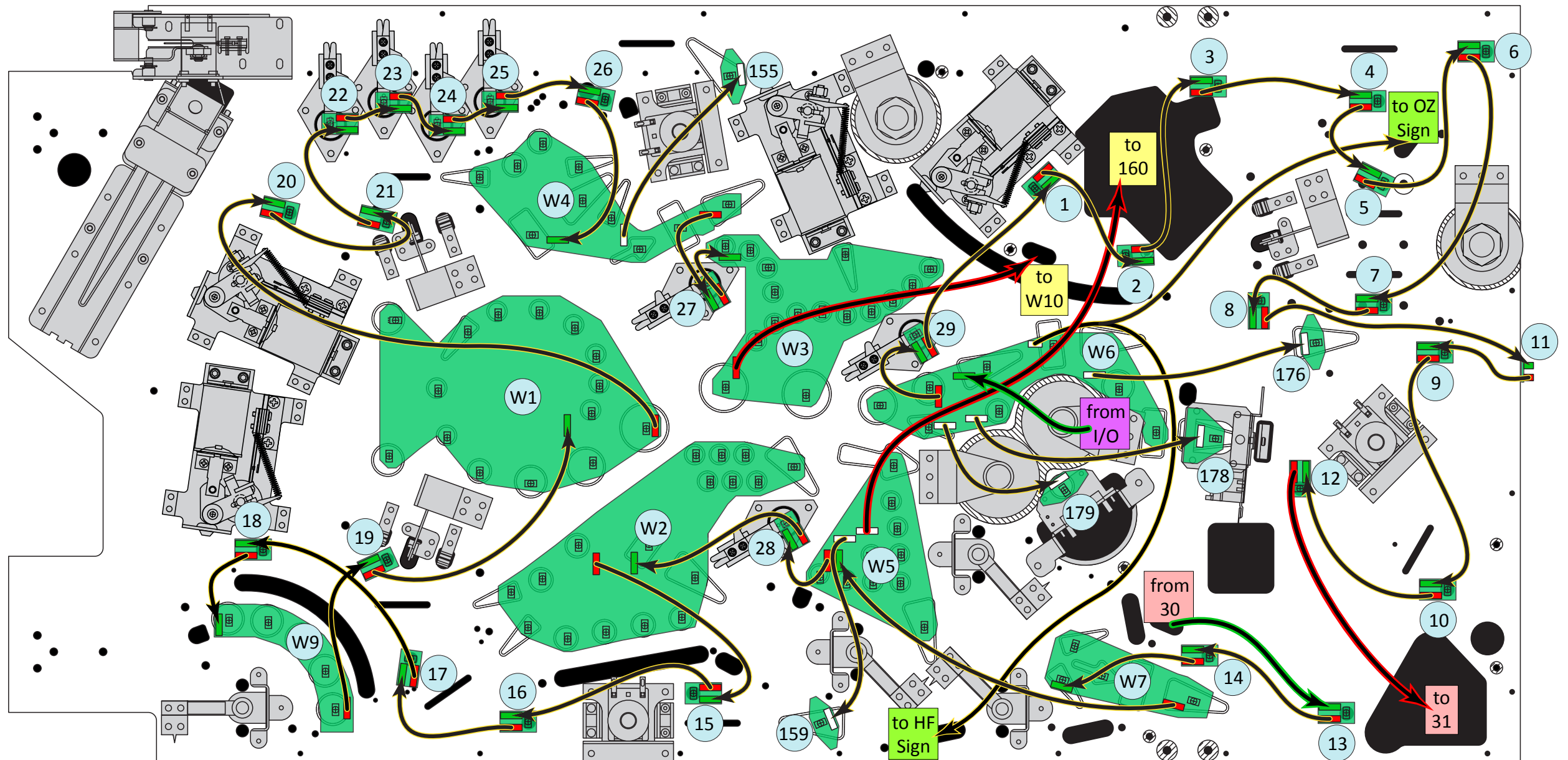
Red - Opto Boards

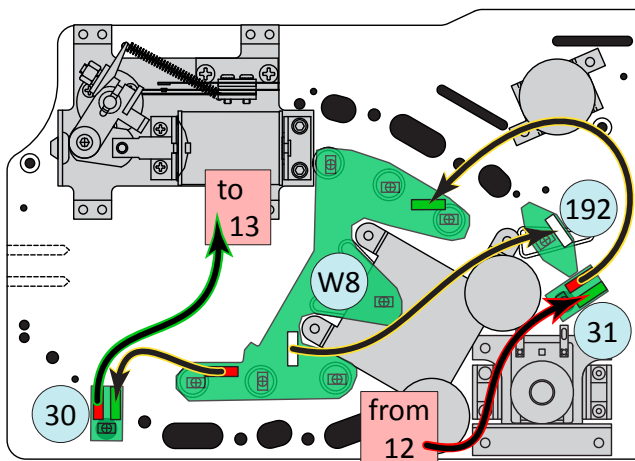
Blue - Other Boards



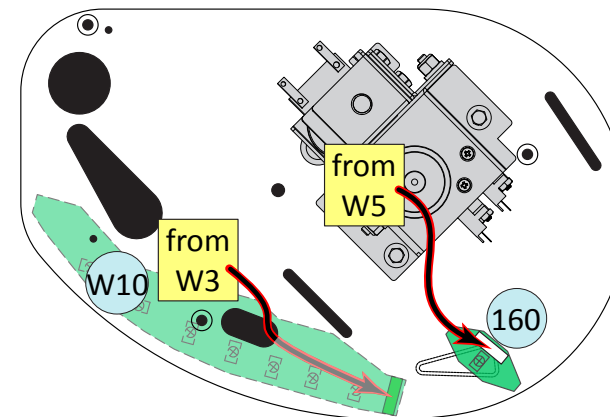
Playfield Printed Circuit Boards

Board	Part Number	Description	Details
O1	15-0004-00	5-Ball Trough Opto Receiver Board	D-2
O2	15-0004-01	5-Ball Trough Opto Transmitter Board	D-5
O3	15-0007-00	Left-Side Opto I/O Board	D-7
O4	15-0007-00	Right-Side Opto I/O Board	D-7
W1	15-0008-01	WOZ FTYBR RGB LED Board (WOZLED1)	D-11
W2	15-0008-02	WOZ Tin Man RGB LED Board (WOZLED2)	D-20
W3	15-0008-03	WOZ Lion RGB LED Board (WOZLED3)	D-29
W4	15-0008-04	WOZ Throne Room RGB LED Board (WOZLED4)	D-38
W5	15-0008-05	WOZ Haunted Forest RGB LED Board (WOZLED5)	D-47
W6	15-0008-06	WOZ Scarecrow RGB LED Board (WOZLED6)	D-56
W7	15-0008-07	WOZ Winged Monkey RGB LED Board (WOZLED7)	D-65
W8	15-0008-08	WOZ Witch Castle RGB LED Board (WOZLED8)	D-74
W9	15-0008-09	WOZ TNPLH RGB LED Board (WOZLED9)	D-83
W10	15-0008-10	WOZ Rainbow RGB LED Board (WOZLED10) (under Rainbow plastic, above Munchkinland)	D-92
155, 159, 160, 176, 179, 192	15-0008-00	WOZ Satellite RGB LED Board	D-107
178	15-0008-11	WOZ 1-Bank Drop Tgt Satellite RGB LED Board	D-111
1 through 31	15-0006-00	WOZ Single GI RGB LED Board (board 11 attached to back panel)	D-101
M1	15-0009-00	Motor Relay Board	D-115
M2	15-0016-00	Magnet Sense Board (attached to back panel)	D-162



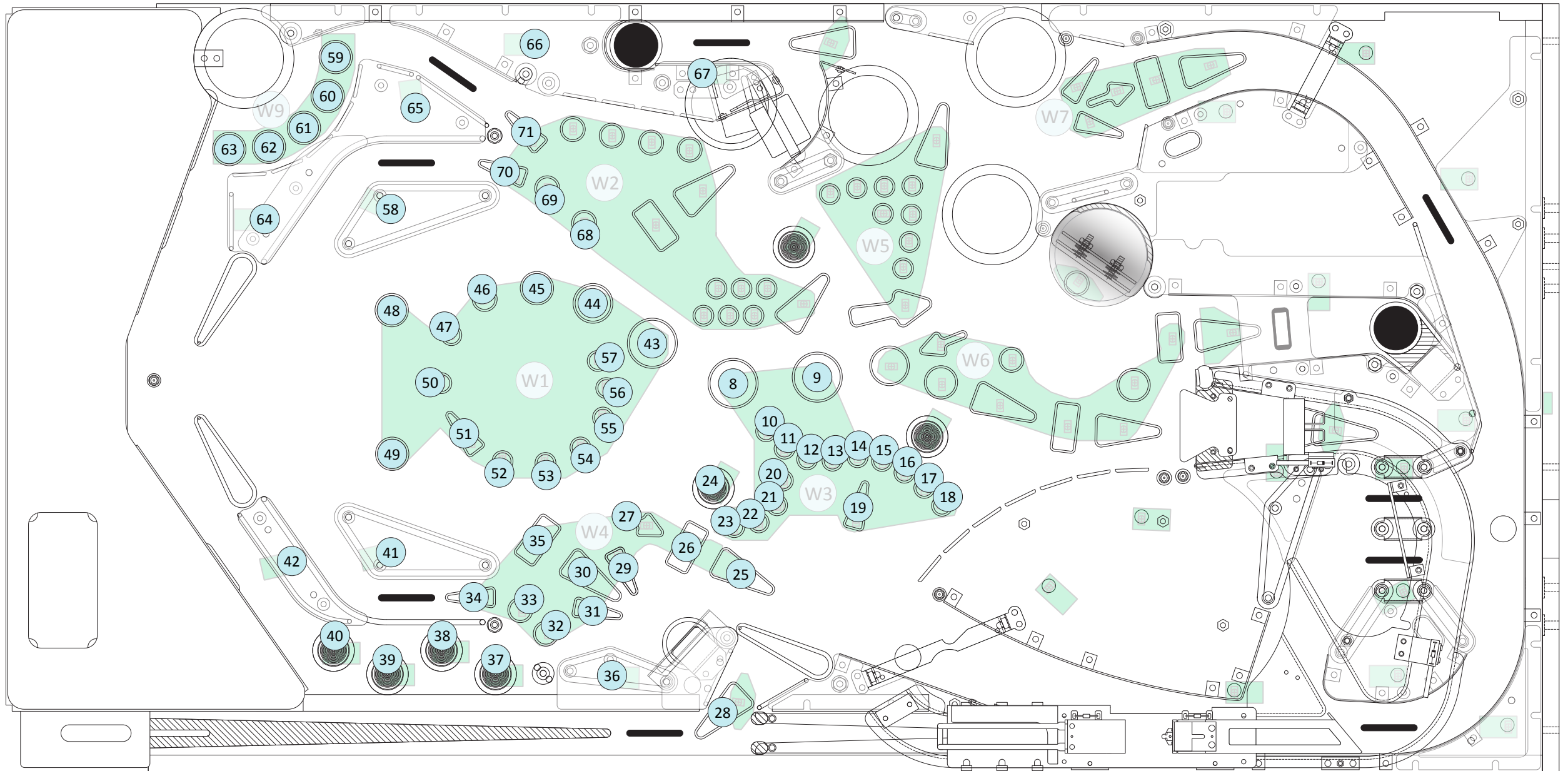


RGB LED Boards Data Cable Chain



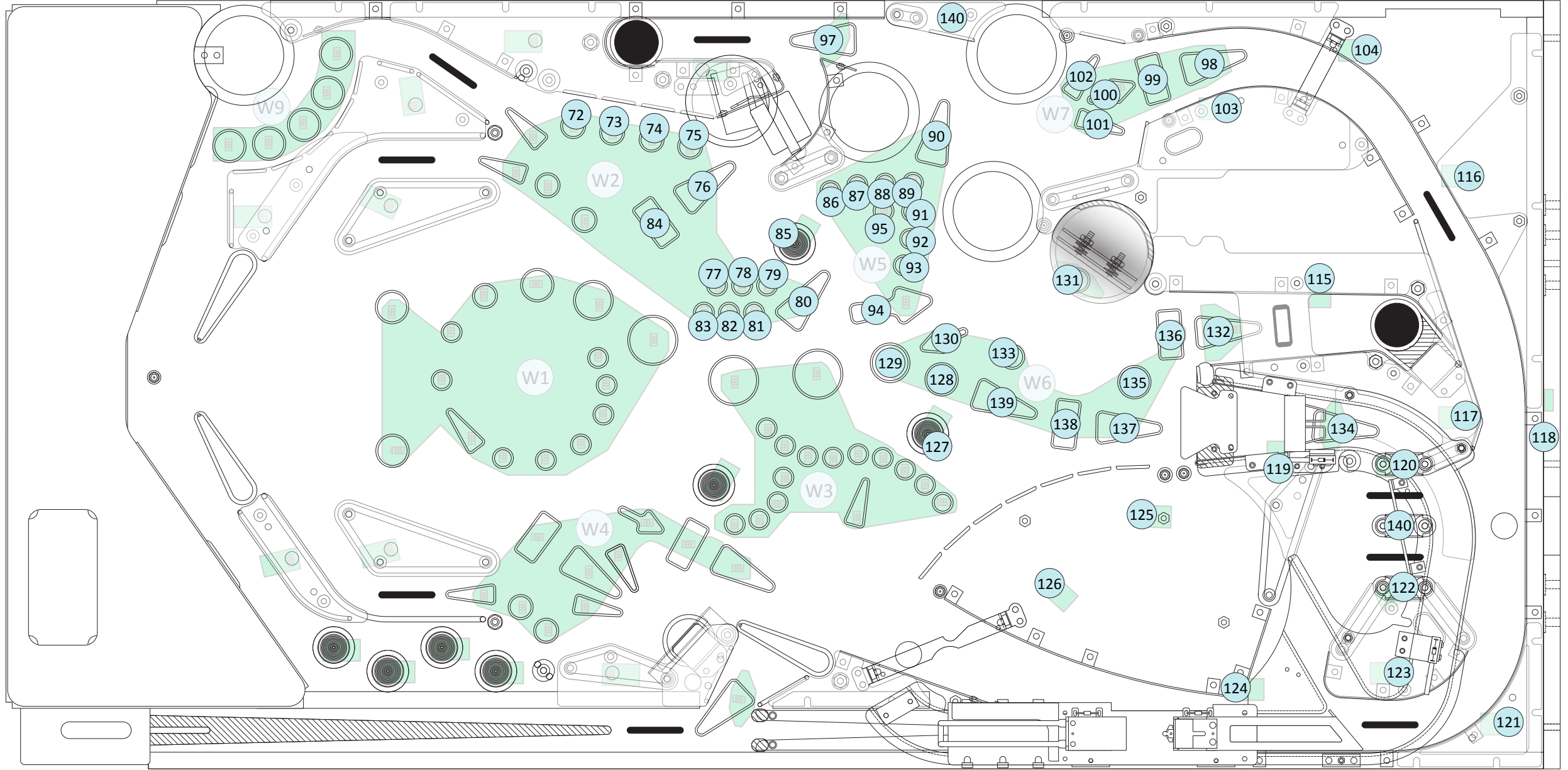
From	To	Cable Part Number	Cable Description
I/O Bd, J802	W6, J101	19-3031-84	5-pin RGB LED Data Cable, 84"
W6, J102	29, J101	19-3031-06	5-pin RGB LED Data Cable, 6"
W6, J176	176, J100	19-3030-03	5-pin RGB LED Satellite Cable, 11"
W6, J178	178, J100	19-3030-03	5-pin RGB LED Satellite Cable, 11"
W6, J179	179, J100	19-3030-01	5-pin RGB LED Satellite Cable, 8"
W6, JEXT	LED Signs	19-3049-00	OZ Lanes & Haunted Forest Signs Cable
29, J102	1, J101	19-3031-10	5-pin RGB LED Data Cable, 10"
1, J102	2, J101	19-3031-10	5-pin RGB LED Data Cable, 10"
2, J102	3, J101	19-3031-10	5-pin RGB LED Data Cable, 10"
3, J102	4, J101	19-3031-10	5-pin RGB LED Data Cable, 10"
4, J102	5, J101	19-3031-06	5-pin RGB LED Data Cable, 6"
5, J102	6, J101	19-3031-10	5-pin RGB LED Data Cable, 10"
6, J102	7, J101	19-3031-10	5-pin RGB LED Data Cable, 10"
7, J102	8, J101	19-3031-06	5-pin RGB LED Data Cable, 6"
8, J102	11, J101	19-3031-16	5-pin RGB LED Data Cable, 16"
11, J102	9, J101	19-3031-10	5-pin RGB LED Data Cable, 10"
9, J102	10, J101	19-3031-10	5-pin RGB LED Data Cable, 10"
10, J102	12, J101	19-3031-10	5-pin RGB LED Data Cable, 10"
12, J102	31, J101	19-3031-26	5-pin RGB LED Data Cable, 26"
31, J102	W8, J101	19-3031-06	5-pin RGB LED Data Cable, 6"
W8, J192	192, J100	19-3030-02	5-pin RGB LED Satellite Cable, 9"
W8, J102	30, J101	19-3031-06	5-pin RGB LED Data Cable, 6"
30, J102	13, J101	19-3031-16	5-pin RGB LED Data Cable, 16"
13, J102	14, J101	19-3031-10	5-pin RGB LED Data Cable, 10"
14, J102	W7, J101	19-3031-10	5-pin RGB LED Data Cable, 10"

From	To	Cable Part Number	Cable Description
W7, J102	W5, J101	19-3031-16	5-pin RGB LED Data Cable, 16"
W5, J159	159, J100	19-3030-01	5-pin RGB LED Satellite Cable, 8"
W5, J160	160, J100	19-3030-00	5-pin RGB LED Satellite Cable, 24"
W5, J102	28, J101	19-3031-06	5-pin RGB LED Data Cable, 6"
28, J102	W2, J101	19-3031-10	5-pin RGB LED Data Cable, 10"
W2, J102	15, J101	19-3031-10	5-pin RGB LED Data Cable, 10"
15, J102	16, J101	19-3031-10	5-pin RGB LED Data Cable, 10"
16, J102	17, J101	19-3031-10	5-pin RGB LED Data Cable, 10"
17, J102	18, J101	19-3031-10	5-pin RGB LED Data Cable, 10"
18, J102	W9, J101	19-3031-06	5-pin RGB LED Data Cable, 6"
W9, J102	19, J101	19-3031-10	5-pin RGB LED Data Cable, 10"
19, J102	W1, J101	19-3031-16	5-pin RGB LED Data Cable, 16"
W1, J102	20, J101	19-3031-16	5-pin RGB LED Data Cable, 16"
20, J102	21, J101	19-3031-06	5-pin RGB LED Data Cable, 6"
21, J102	22, J101	19-3031-06	5-pin RGB LED Data Cable, 6"
22, J102	23, J101	19-3031-06	5-pin RGB LED Data Cable, 6"
23, J102	24, J101	19-3031-06	5-pin RGB LED Data Cable, 6"
24, J102	25, J101	19-3031-06	5-pin RGB LED Data Cable, 6"
25, J102	26, J101	19-3031-10	5-pin RGB LED Data Cable, 10"
26, J102	W4, J101	19-3031-10	5-pin RGB LED Data Cable, 10"
W4, J155	155, J100	19-3030-02	5-pin RGB LED Satellite Cable, 9"
W4, J102	27, J101	19-3031-06	5-pin RGB LED Data Cable, 6"
27, J102	W3, J101	19-3031-06	5-pin RGB LED Data Cable, 6"
W3, J102	W10, J101	19-3031-26	5-pin RGB LED Data Cable, 26"



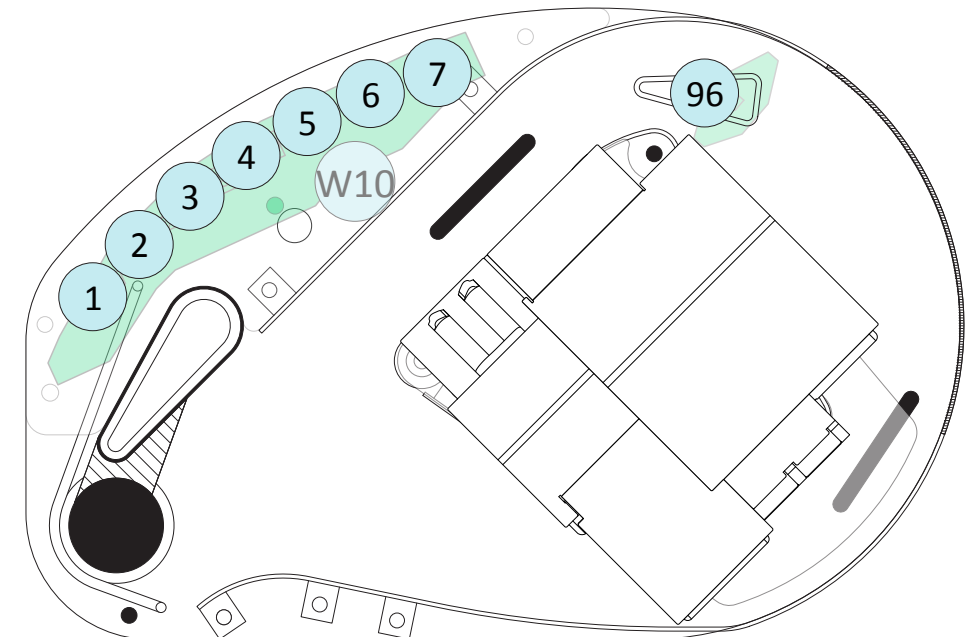
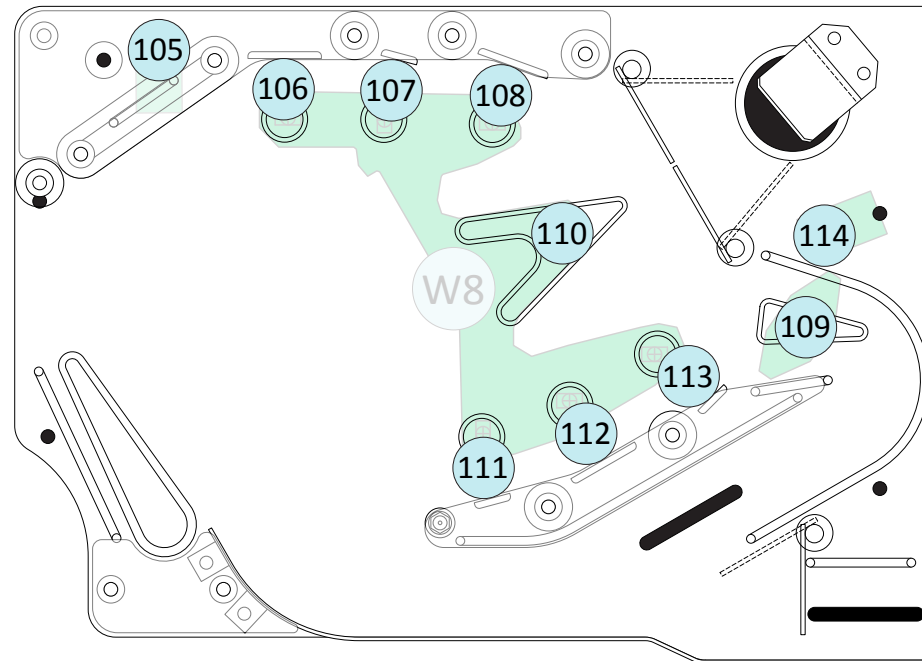
Main Playfield Feature Lighting & General Illumination (1 of 2)

Test LED	Location/Function	RGB LED Board	Part Number	Details	Test LED	Location/Function	RGB LED Board	Part Number	Details
8	Hour Glass	W3	15-0008-03	D-29	40	TOTO Rollover	22	15-0006-00	D-101
9	Yellow Brick Road 8	W3	15-0008-03	D-29	41	Right Sling GI	21	15-0006-00	D-101
10	SCARECROW™	W3	15-0008-03	D-29	42	Right Return GI	20	15-0006-00	D-101
11	SCARECROW™	W3	15-0008-03	D-29	43	Yellow Brick Road 7	W1	15-0008-01	D-11
12	SCARECROW™	W3	15-0008-03	D-29	44	Yellow Brick Road 6	W1	15-0008-01	D-11
13	SCARECROW™	W3	15-0008-03	D-29	45	Yellow Brick Road 5	W1	15-0008-01	D-11
14	SCARECROW™	W3	15-0008-03	D-29	46	Yellow Brick Road 4	W1	15-0008-01	D-11
15	SCARECROW™	W3	15-0008-03	D-29	47	Yellow Brick Road 3	W1	15-0008-01	D-11
16	SCARECROW™	W3	15-0008-03	D-29	48	Super X	W1	15-0008-01	D-11
17	SCARECROW™	W3	15-0008-03	D-29	49	Shoot Again	W1	15-0008-01	D-11
18	SCARECROW™	W3	15-0008-03	D-29	50	Yellow Brick Road 2	W1	15-0008-01	D-11
19	Upper Right Flipper Skill	W3	15-0008-03	D-29	51	Yellow Brick Road 1	W1	15-0008-01	D-11
20	Cowardly LION™	W3	15-0008-03	D-29	52	Yellow Brick Road Lead-In 6	W1	15-0008-01	D-11
21	Cowardly LION™	W3	15-0008-03	D-29	53	Yellow Brick Road Lead-In 5	W1	15-0008-01	D-11
22	Cowardly LION™	W3	15-0008-03	D-29	54	Yellow Brick Road Lead-In 4	W1	15-0008-01	D-11
23	Cowardly LION™	W3	15-0008-03	D-29	55	Yellow Brick Road Lead-In 3	W1	15-0008-01	D-11
24	Cowardly Lion™ Rollover	27	15-0006-00	D-101	56	Yellow Brick Road Lead-In 2	W1	15-0008-01	D-11
25	Right Orbit Emerald Arrow	W4	15-0008-04	D-38	57	Yellow Brick Road Lead-In 1	W1	15-0008-01	D-11
26	Right Orbit Horse	W4	15-0008-04	D-38	58	Left Sling GI	19	15-0006-00	D-101
27	Right Orbit Advance YBR	W4	15-0008-04	D-38	59	THERE'S NO PLACE LIKE HOME™	W9	15-0008-09	D-83
28	Horse Collect	155	15-0008-00	D-107	60	THERE'S NO PLACE LIKE HOME™	W9	15-0008-09	D-83
29	Throne Room Extra Ball	W4	15-0008-04	D-38	61	THERE'S NO PLACE LIKE HOME™	W9	15-0008-09	D-83
30	Throne Room Emerald Arrow	W4	15-0008-04	D-38	62	THERE'S NO PLACE LIKE HOME™	W9	15-0008-09	D-83
31	Throne Room Special	W4	15-0008-04	D-38	63	THERE'S NO PLACE LIKE HOME™	W9	15-0008-09	D-83
32	Right Inlane Winkie Guard Hurry	W4	15-0008-04	D-38	64	Left Return, Low GI	18	15-0006-00	D-101
33	Right Inlane Crystal Ball Hurry	W4	15-0008-04	D-38	65	Left Return, High GI	17	15-0006-00	D-101
34	Right Inlane OZ Lane Hurry	W4	15-0008-04	D-38	66	Crystal Ball, Low GI	16	15-0006-00	D-101
35	Throne Room Horse	W4	15-0008-04	D-38	67	Crystal Ball, High GI	15	15-0006-00	D-101
36	Throne Room GI	26	15-0006-00	D-101	68	Left Inlane Rainbow Hurry	W2	15-0008-02	D-20
37	TOTO Rollover	25	15-0006-00	D-101	69	Left Inlane Throne Room Hurry	W2	15-0008-02	D-20
38	TOTO Rollover	24	15-0006-00	D-101	70	Left Inlane OZ Lane Hurry	W2	15-0008-02	D-20
39	TOTO Rollover	23	15-0006-00	D-101	71	Click Heels	W2	15-0008-02	D-20



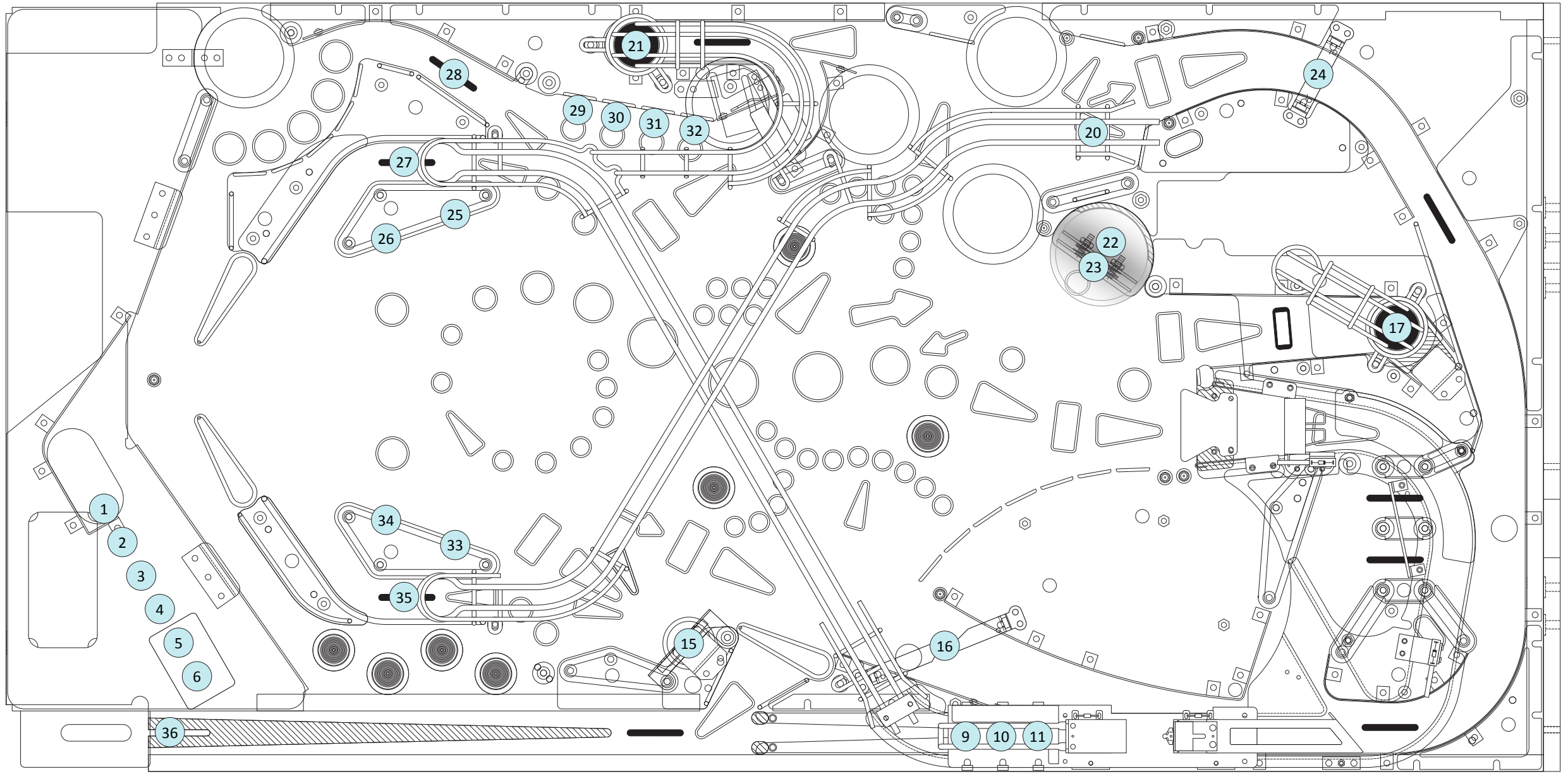
Main Playfield Feature Lighting & General Illumination (2 of 2)

Test LED	Location/Function	RGB LED Board	Part Number	Details	Test LED	Location/Function	RGB LED Board	Part Number	Details
72	Crystal BALL	W2	15-0008-02	D-20	102	WINGED MONKEY™	W7	15-0008-07	D-65
73	Crystal BALL	W2	15-0008-02	D-20	103	Left Orbit, Low GI	14	15-0006-00	D-101
74	Crystal BALL	W2	15-0008-02	D-20	104	Left Orbit, Mid GI	13	15-0006-00	D-101
75	Crystal BALL	W2	15-0008-02	D-20	115	Winkie Guard, Left GI	12	15-0006-00	D-101
76	Crystal Ball Emerald Arrow	W2	15-0008-02	D-20	116	Left Orbit, High GI	10	15-0006-00	D-101
77	TIN MAN™	W2	15-0008-02	D-20	117	Winkie Guard, Right GI	9	15-0006-00	D-101
78	TIN MAN™	W2	15-0008-02	D-20	118	Back Panel Capture Dorothy™	11	15-0006-00	D-101
79	TIN MAN™	W2	15-0008-02	D-20	119	Top Sling GI	8	15-0006-00	D-101
80	Pop Bumpers Emerald Arrow	W2	15-0008-02	D-20	120	Wizard of OZ™ Lanes, Left GI	7	15-0006-00	D-101
81	TIN MAN™	W2	15-0008-02	D-20	121	Upper Right Corner GI	6	15-0006-00	D-101
82	TIN MAN™	W2	15-0008-02	D-20	122	Wizard of OZ™ Lanes, Right GI	5	15-0006-00	D-101
83	TIN MAN™	W2	15-0008-02	D-20	123	Right Orbit, High GI	4	15-0006-00	D-101
84	Crystal Ball Horse	W2	15-0008-02	D-20	124	Right Orbit, Low GI	3	15-0006-00	D-101
85	Tin Man™ Rollover	28	15-0006-00	D-101	125	Under Munchkinland, High GI	2	15-0006-00	D-101
86	HAUNTED Forest™	W5	15-0008-05	D-47	126	Under Munchkinland, Low GI	1	15-0006-00	D-101
87	HAUNTED Forest™	W5	15-0008-05	D-47	127	Scarecrow™ Rollover	29	15-0006-00	D-101
88	HAUNTED Forest™	W5	15-0008-05	D-47	128	Yellow Brick Road 10	W6	15-0008-06	D-56
89	HAUNTED Forest™	W5	15-0008-05	D-47	129	Yellow Brick Road 9	W6	15-0008-06	D-56
90	Pop Bumpers Skill	W5	15-0008-05	D-47	130	Witch Fireball	W6	15-0008-06	D-56
91	HAUNTED Forest™	W5	15-0008-05	D-47	131	Witch Ball, Left	179	15-0008-00	D-107
92	HAUNTED Forest™	W5	15-0008-05	D-47	132	Winkie Guard Emerald Arrow	178	15-0008-11	D-111
93	HAUNTED Forest™	W5	15-0008-05	D-47	133	Witch Ball, Right	W6	15-0008-06	D-56
94	Wicked Witch™	W5	15-0008-05	D-47	134	Ramp It's A Twister!	176	15-0008-00	D-107
95	Haunted Owl	W5	15-0008-05	D-47	135	Glinda Star	W6	15-0008-06	D-56
97	Haunted Collect	159	15-0008-00	D-107	136	Winkie Guard Horse	W6	15-0008-06	D-56
98	Left Orbit Emerald Arrow	W7	15-0008-07	D-65	137	Ramp Lock	W6	15-0008-06	D-56
99	Left Orbit Horse	W7	15-0008-07	D-65	138	Ramp Horse	W6	15-0008-06	D-56
100	Left Orbit Advance YBR	W7	15-0008-07	D-65	139	Ramp Emerald Arrow	W6	15-0008-06	D-56
101	WINGED MONKEY™	W7	15-0008-07	D-65	140	Wizard of OZ™ Lanes/Haunted Forest™ LEDs in Playfield Sign Plastics			



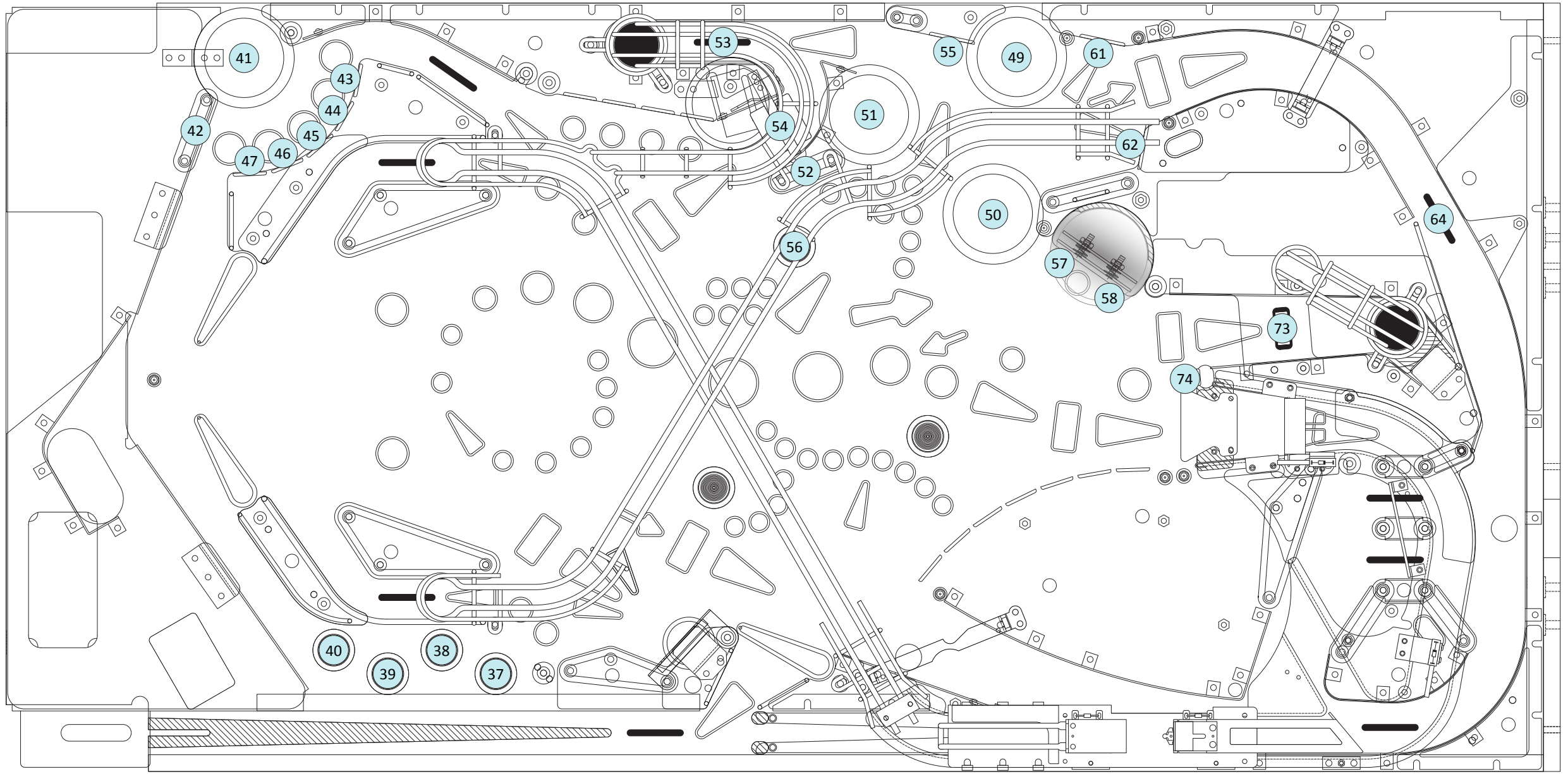
Mini Playfield Feature Lighting & General Illumination

Test LED	Location/Function	RGB LED Board	Part Number	Details
1	Munchkinland RAINBOW	W10	15-0008-10	D-92
2	Munchkinland RAINBOW	W10	15-0008-10	D-92
3	Munchkinland RAINBOW	W10	15-0008-10	D-92
4	Munchkinland RAINBOW	W10	15-0008-10	D-92
5	Munchkinland RAINBOW	W10	15-0008-10	D-92
6	Munchkinland RAINBOW	W10	15-0008-10	D-92
7	Munchkinland RAINBOW	W10	15-0008-10	D-92
96	Munchkinland Arrow	160	15-0008-00	D-107
105	Castle, Low GI	30	15-0006-00	D-101
106	Castle RESCUE	W8	15-0008-08	D-74
107	Castle RESCUE	W8	15-0008-08	D-74
108	Castle RESCUE	W8	15-0008-08	D-74
109	Castle Search	192	15-0008-00	D-107
110	Castle Break Down Door	W8	15-0008-08	D-74
111	Castle RESCUE	W8	15-0008-08	D-74
112	Castle RESCUE	W8	15-0008-08	D-74
113	Castle RESCUE	W8	15-0008-08	D-74
114	Castle, High GI	31	15-0006-00	D-107



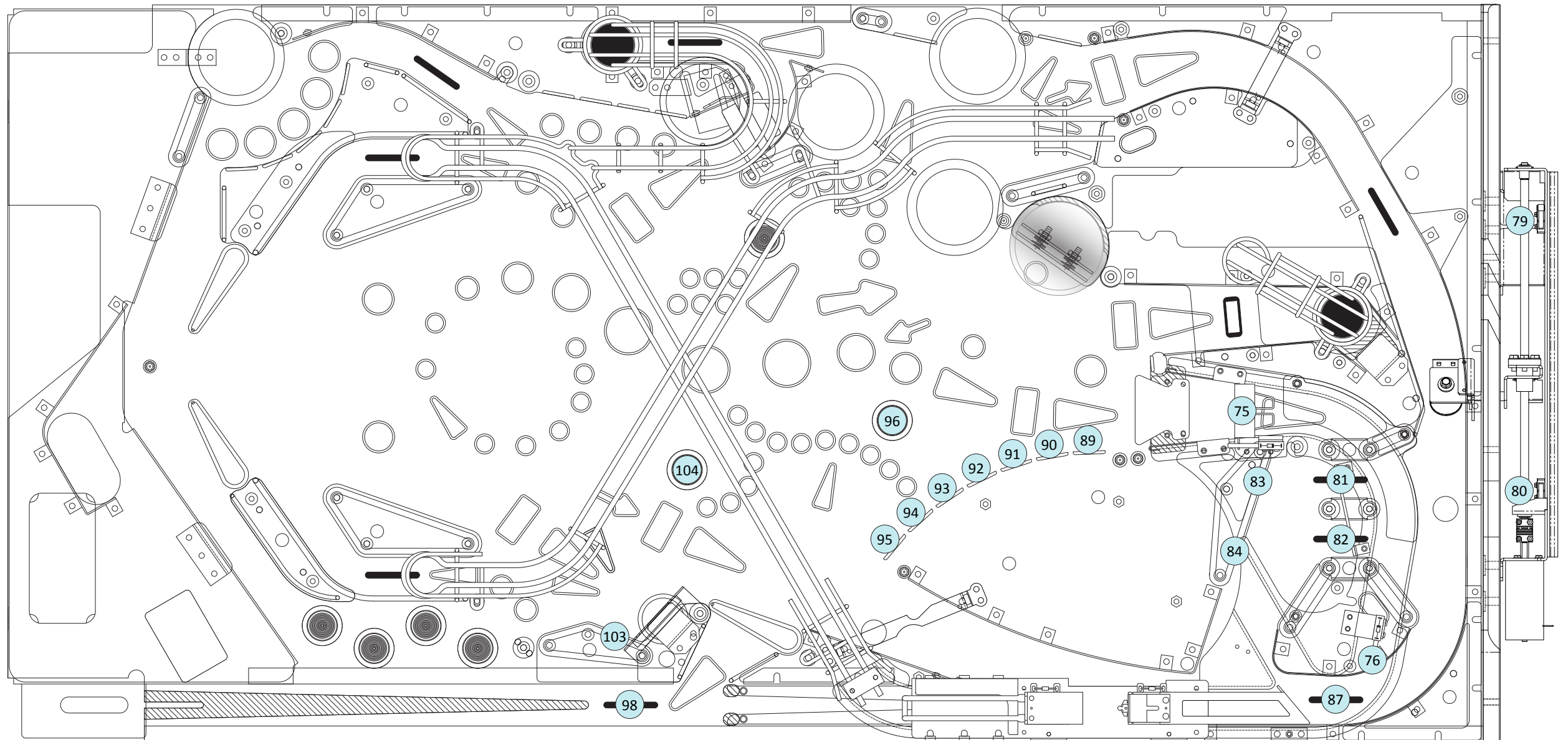
Main Playfield Switch Locations (1 of 3)

Switch	Switch Function	Switch Type	Part Number(s)	Part of Assembly	Drawing
1	5-Ball Trough #1 (Left)	Opto LED, Phototransistor Pair	15-5007-00, 15-5007-01	51-0021-00	C-27
2	5-Ball Trough #2	Opto LED, Phototransistor Pair	15-5007-00, 15-5007-01	51-0021-00	C-27
3	5-Ball Trough #3	Opto LED, Phototransistor Pair	15-5007-00, 15-5007-01	51-0021-00	C-27
4	5-Ball Trough #4	Opto LED, Phototransistor Pair	15-5007-00, 15-5007-01	51-0021-00	C-27
5	5-Ball Trough VUK	Opto LED, Phototransistor Pair	15-5007-00, 15-5007-01	51-0021-00	C-27
6	5-Ball Trough Jam	Opto LED, Phototransistor Pair	15-5007-00, 15-5007-01	51-0021-00	C-27
9	Ramp Ball Lock #1 (Front)	Opto LED, Phototransistor Pair	18-5001-00, 18-5001-01	52-0029-00	C-42
10	Ramp Ball Lock #2	Opto LED, Phototransistor Pair	18-5001-00, 18-5001-01	52-0029-00	C-42
11	Ramp Ball Lock #3 (Back)	Opto LED, Phototransistor Pair	18-5001-00, 18-5001-01	52-0029-00	C-42
15	Throne Room VUK	Opto LED, Phototransistor Pair	15-5004-00, 15-5004-01	51-0009-00	C-25
16	Right Orbit Enter	Opto LED, Phototransistor Pair	18-5001-00, 18-5001-01	51-0036-01	C-33
17	Winkie Guard VUK	Opto LED, Phototransistor Pair	15-5004-00, 15-5004-01	51-0009-00	C-25
20	Castle Exit (On Wire Ramp)	Opto LED, Phototransistor Pair	18-5001-00, 18-5001-01	13-2001-00	C-10
21	Crystal Ball VUK	Opto LED, Phototransistor Pair	15-5004-00, 15-5004-01	51-0009-00	C-25
22	Witch Home (Up)	U-Shaped Opto	18-5000-00	52-0031-00	C-43
23	Witch Melt (Down)	U-Shaped Opto	18-5000-00	52-0031-00	C-43
24	Left Orbit Enter	Opto LED, Phototransistor Pair	18-5001-00, 18-5001-01	51-0036-00	C-33
25	Left Slingshot, High	Stand-Up Leaf	18-7008-00	51-0003-00	C-22
26	Left Slingshot, Low	Stand-Up Leaf	18-7008-00	51-0003-00	C-22
27	Left Return Lane	Microswitch & Wireform	18-3004-00	-	-
28	Left Outlane	Microswitch & Wireform	18-3004-00	-	-
29	Crystal BALL Target	Round Stand Up Tgt, FM, Lt. Blue	18-9002-13	-	-
30	Crystal BALL Target	Round Stand Up Tgt, FM, Lt. Blue	18-9002-13	-	-
31	Crystal BALL Target	Round Stand Up Tgt, FM, Lt. Blue	18-9002-13	-	-
32	Crystal BALL Target	Round Stand Up Tgt, FM, Lt. Blue	18-9002-13	-	-
33	Right Slingshot, High	Stand-Up Leaf	18-7008-00	51-0003-00	C-22
34	Right Slingshot, Low	Stand-Up Leaf	18-7008-00	51-0003-00	C-22
35	Right Return Lane	Microswitch & Wireform	18-3004-00	-	-
36	Shooter Lane	Microswitch & Wireform	18-3001-00	51-0026-00	C-29



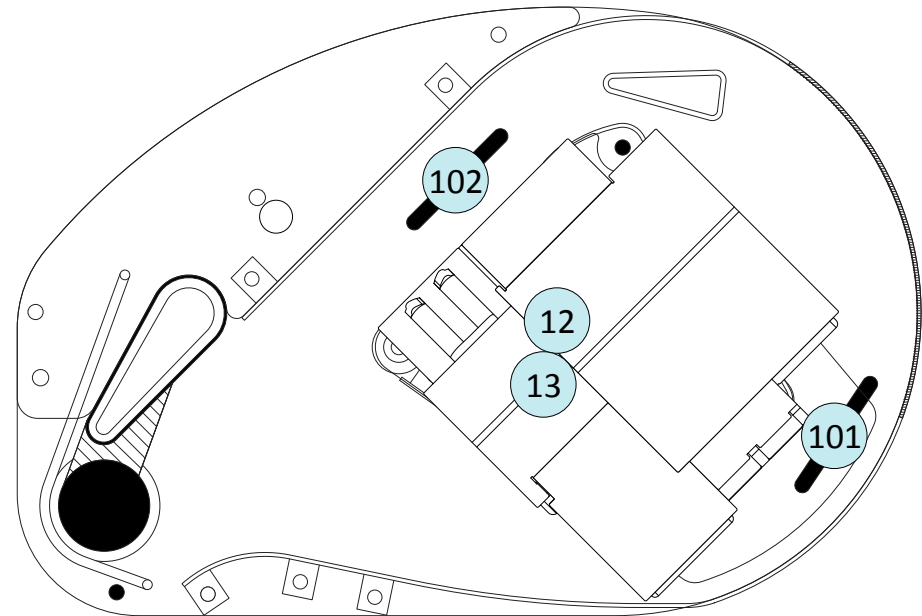
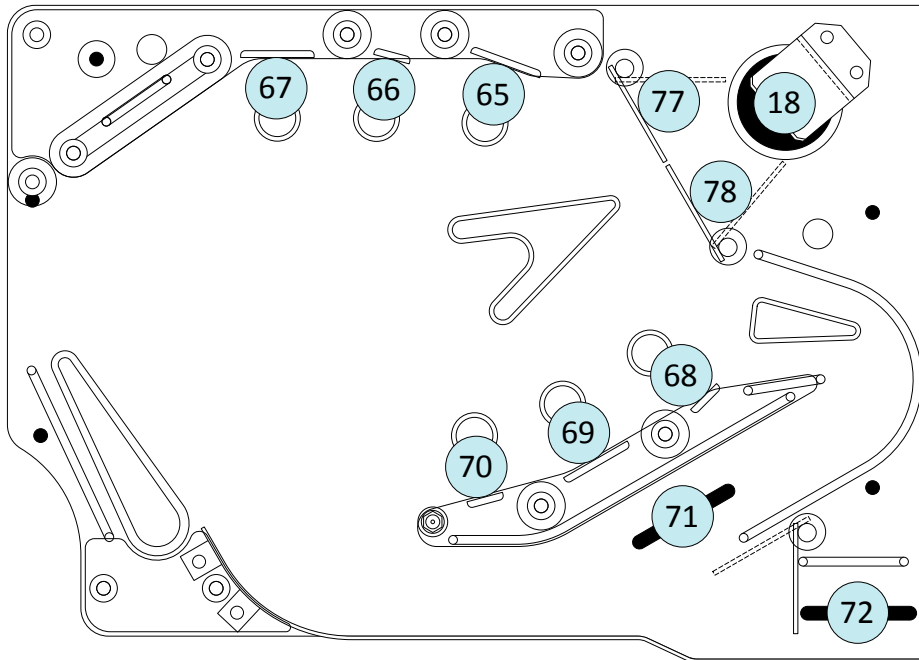
Main Playfield Switch Locations (2 of 3)

Switch	Switch Function	Switch Type	Part Number	Part of Assembly	Drawing
37	TOTO Rollover	Rollover Leaf	18-0004-00	18-7003-00	C-11
38	TOTO Rollover	Rollover Leaf	18-0004-00	18-7003-00	C-11
39	TOTO Rollover	Rollover Leaf	18-0004-00	18-7003-00	C-11
40	TOTO Rollover	Rollover Leaf	18-0004-00	18-7003-00	C-11
41	State Fair Balloon Bumper	Pop Bumper Leaf	18-7007-00	51-0004-00	C-23
42	State Fair Balloon Rubber	Stand-Up Leaf	18-7008-01	-	-
43	THERE'S NO PLACE LIKE HOME™ Target	Round Stand Up Tgt, RM, Green	18-9012-05	-	-
44	THERE'S NO PLACE LIKE HOME™ Target	Round Stand Up Tgt, RM, Green	18-9012-05	-	-
45	THERE'S NO PLACE LIKE HOME™ Target	Round Stand Up Tgt, RM, Green	18-9012-05	-	-
46	THERE'S NO PLACE LIKE HOME™ Target	Round Stand Up Tgt, RM, Green	18-9012-05	-	-
47	THERE'S NO PLACE LIKE HOME™ Target	Round Stand Up Tgt, RM, Green	18-9012-05	-	-
49	Left Tree Bumper	Pop Bumper Leaf	18-7007-00	51-0004-00	C-23
50	Right Tree Bumper	Pop Bumper Leaf	18-7007-00	51-0004-00	C-23
51	Center Tree Bumper	Pop Bumper Leaf	18-7007-00	51-0004-00	C-23
52	Bumper Entry Rubber	Stand-Up Leaf	18-7008-01	-	-
53	Bumper Exit Lane	Microswitch & Wireform	18-3004-00	-	-
54	Crystal Ball Spinner	Microswitch & Wireform	18-3003-00	18-7002-00	-
55	SKILL Target	Rectangle Stand Up Tgt, FM, Red	18-9006-02	-	-
56	Tin Man™ Rollover	Rollover Leaf	18-0004-00	18-7003-00	C-11
57	Witch Target, Left	Microswitch With Roller	18-3005-00	52-0032-00	C-44
58	Witch Target, Right	Microswitch With Roller	18-3005-00	52-0032-00	C-44
61	WINGED MONKEY™ Target	Rectangle Stand Up Tgt, FM, Lt. Blue	18-9006-13	-	-
62	WINGED MONKEY™ Target	Rectangle Stand Up Tgt, FM, Lt. Blue	18-9006-13	-	-
64	Left Orbit Made	Microswitch & Wireform	18-3004-00	-	-
73	Winkie Guard Drop Target	Microswitch & Wireform	18-3002-00	51-0013-00	C-26
74	Glinda Target	Oblong Stand Up Tgt, FM, Pink	18-9000-12	-	-



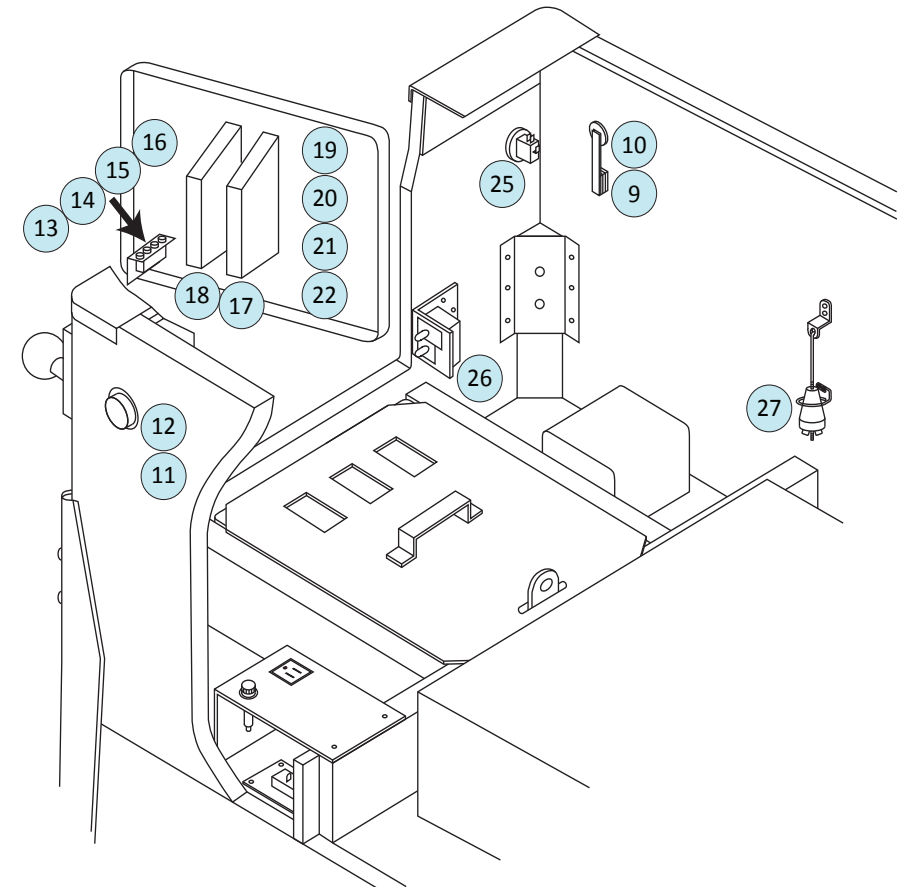
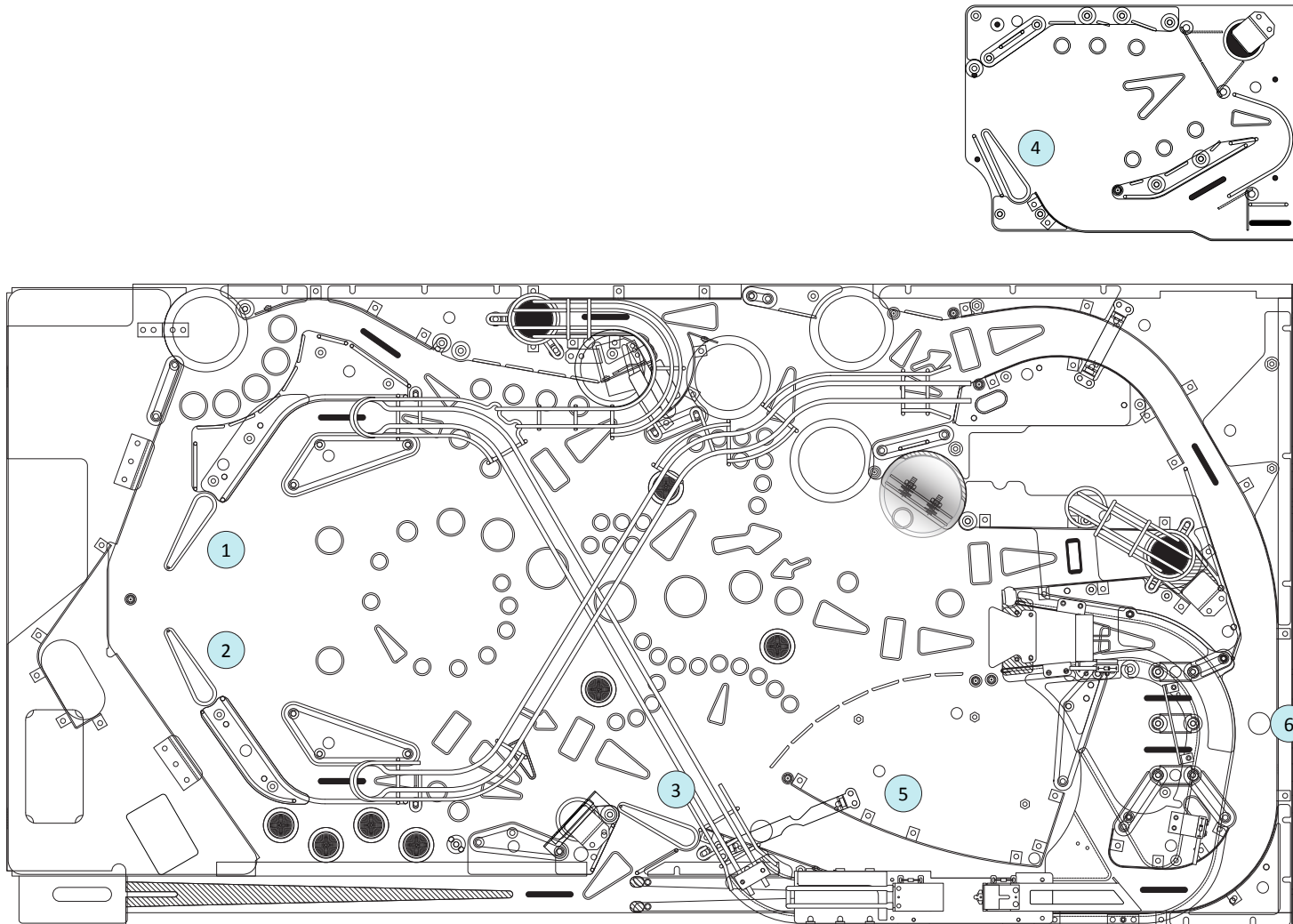
Main Playfield Switch Locations (3 of 3)

Switch	Switch Function	Switch Type	Part Number	Part of Assembly	Drawing
75	Emerald City Ramp Enter	Microswitch & Wireform	18-3011-00	31-5001-00	C-16
76	Emerald City Ramp Made	Microswitch & Wireform	18-3010-00	31-5001-00	C-16
79	Monkey Home (In Castle)	Microswitch With Roller	18-3005-00	52-0003-00	C-36
80	Monkey Away (At Magnet)	Microswitch With Roller	18-3005-00	52-0003-00	C-36
81	Wizard of OZ ™ Lane	Microswitch & Wireform	18-3004-00	-	-
82	Wizard of OZ ™ Lane	Microswitch & Wireform	18-3004-00	-	-
83	Top Lanes Slingshot, Left	Stand-Up Leaf	18-7008-00	51-0003-00	C-22
84	Top Lanes Slingshot, Right	Stand-Up Leaf	18-7008-00	51-0003-00	C-22
87	Right Orbit Made	Microswitch & Wireform	18-3004-00	-	-
89	RAINBOW Target	Round Stand Up Tgt, FM, Red	18-9002-02	-	-
90	RAINBOW Target	Round Stand Up Tgt, FM, Orange	18-9002-03	-	-
91	RAINBOW Target	Round Stand Up Tgt, FM, Yellow	18-9002-04	-	-
92	RAINBOW Target	Round Stand Up Tgt, FM, Green	18-9002-05	-	-
93	RAINBOW Target	Round Stand Up Tgt, FM, Lt. Blue	18-9002-13	-	-
94	RAINBOW Target	Round Stand Up Tgt, FM, Blue	18-9002-06	-	-
95	RAINBOW Target	Round Stand Up Tgt, FM, Violet	18-9002-07	-	-
96	Scarecrow™ Rollover	Rollover Leaf	18-0004-00	18-7003-00	C-11
98	Horse Of A Different Color Collect	Microswitch & Wireform	18-3004-00	-	-
103	Throne Room Rubber	Stand-Up Leaf	18-7008-01	-	-
104	Cowardly Lion™ Rollover	Rollover Leaf	18-0004-00	18-7003-00	C-11



Mini Playfield Switch Locations

Switch	Switch Function	Switch Type	Part Number(s)	Part Of Assembly	Drawing
12	Spinning House Home	U-Shaped Opto	18-5000-00	52-0023-00	C-41
13	Spinning House Step Notch	U-Shaped Opto	18-5000-00	52-0023-00	C-41
18	Castle Doors VUK	Opto LED, Phototransistor Pair	15-5004-00, 15-5004-01	51-0009-00	C-25
65	RESCUE Target	Round Stand Up Tgt, FM, Orange	18-9002-03	-	-
66	RESCUE Target	Oblong Stand Up Tgt, FM, Orange	18-9000-03	-	-
67	RESCUE Target	Round Stand Up Tgt, FM, Orange	18-9002-03	-	-
68	RESCUE Target	Oblong Stand Up Tgt, FM, Orange	18-9000-03	-	-
69	RESCUE Target	Round Stand Up Tgt, FM, Orange	18-9002-03	-	-
70	RESCUE Target	Oblong Stand Up Tgt, FM, Orange	18-9000-03	-	-
71	Castle Loop	Microswitch & Wireform	18-3004-00	-	-
72	Castle Ball Lock (Monkey)	Microswitch & Wireform	18-7001-00	-	-
77	Castle Door Bash, Left	Microswitch	18-3009-00	52-0005-00	C-38
78	Castle Door Bash, Right	Microswitch	18-3009-00	52-0005-00	C-38
101	Munchkinland Loop, Upper	Microswitch & Wireform	18-3004-00	-	-
102	Munchkinland Loop, Lower	Microswitch & Wireform	18-3004-00	-	-

















Dedicated Switch Locations

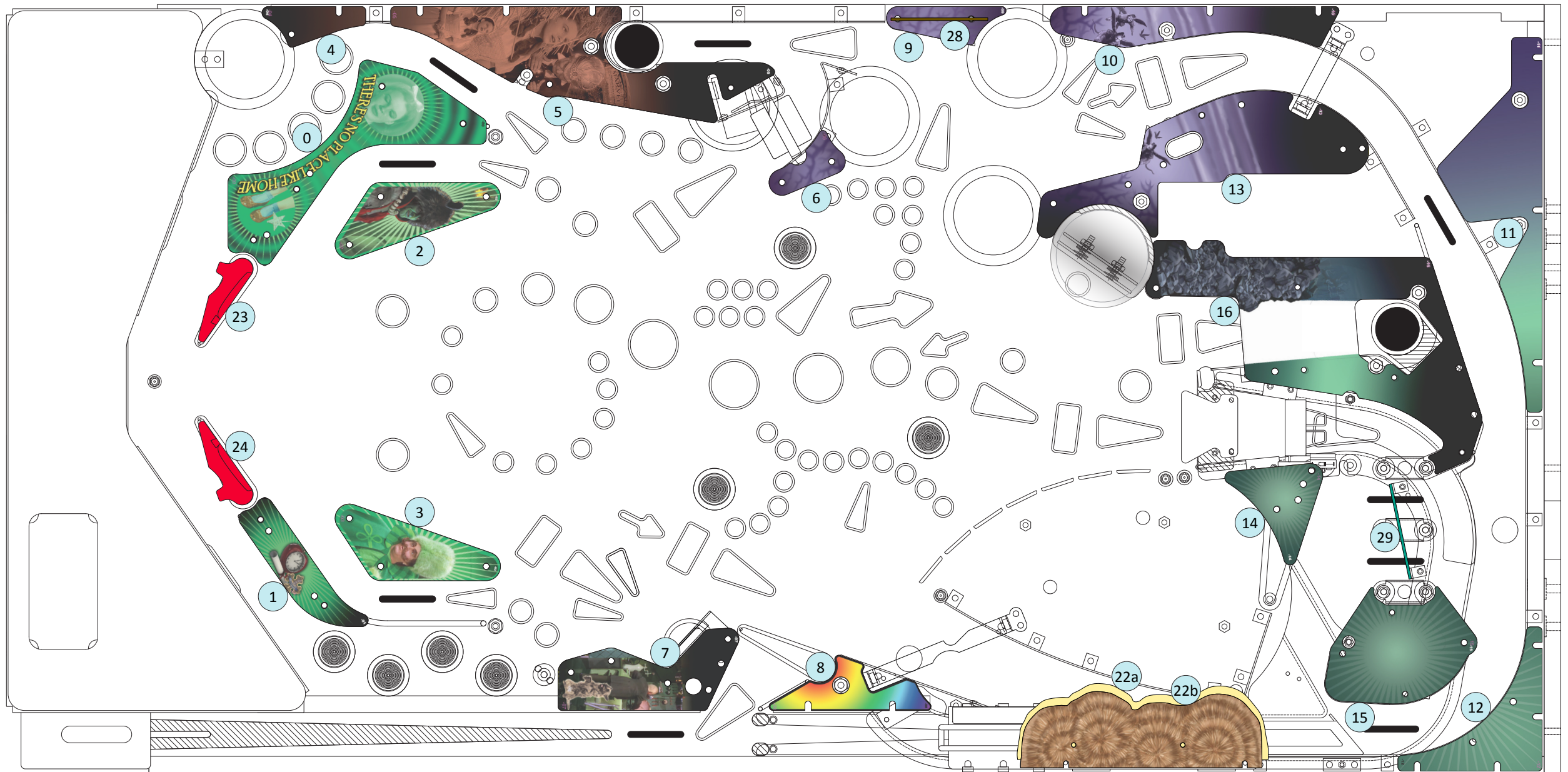
Switch	Switch Function	Switch Type	Part Number	Part Of Assembly	Drawing
1	Left Flipper EOS	Leaf	18-0001-00	51-0002-00	C-21
2	Right Flipper EOS	Leaf	18-0001-00	51-0001-00	C-20
3	Upper Right Flipper EOS	Leaf	18-0001-00	51-0001-00	C-20
4	Castle Flipper EOS	Leaf	18-0001-00	51-0001-00	C-20
5	Munchkinland Flipper EOS	Leaf	18-0001-00	51-0002-11	C-21
6	Monkey Magnet Sense	Magnetic	-	-	-
9	Left Flipper Switch, Lower	Leaf	18-0005-01	-	-
10	Left Flipper Switch, Upper	Leaf	18-0005-01	-	-
11	Right Flipper Switch, Lower	Leaf	18-0005-01	-	-
12	Right Flipper Switch, Upper	Leaf	18-0005-01	-	-
13	Enter/Menu Button	Pushbutton, Momentary Contact	-	-	-
14	Up/Volume+ Button	Pushbutton, Momentary Contact	-	-	-
15	Down/Volume- Button	Pushbutton, Momentary Contact	-	-	-
16	Escape/Service Credit Button	Pushbutton, Momentary Contact	-	-	-
17	Left Coin Switch	Microswitch & Wireform	-	-	-
18	Right Coin Switch	Microswitch & Wireform	-	-	-
19	Center Dollar Bill Acceptor	Electronic	-	-	-
20	4th Coin Slot Switch	Electronic	-	-	-
21	5th Coin Slot Switch	Electronic	-	-	-
22	6th Coin Slot Switch	Electronic	-	-	-
25	Start Button	Microswitch In A Pushbutton	18-7005-00	-	-
26	Coin Door Open	Large Microswitch	18-3008-00	51-0035-00	-
27	Plumb Bob Tilt	Contact	-	51-0028-00	C-31



Opto Wiring

Under Main Playfield

Cable	Description	Function	Part Number	Opto I/O Board	Connector	Details
1	WOZ Winkie Guard VUK Opto Cable, BLK	Winkie Guard VUK Switch	19-3003-00	Left Side	J1/BLK 	D-7, D-9
2	WOZ Castle Doors VUK Opto Cable, BRN	Castle Doors VUK Switch	19-3003-01	Left Side	J2/BRN 	D-7, D-9
3	Left Orbit Enter Opto Cable Assy	Left Orbit Enter Switch	19-3017-01	Left Side	J4/ORN 	D-7, D-9
4	WOZ Crystal Ball VUK Opto Cable, YEL	Crystal Ball VUK Switch	19-3003-04	Left Side	J5/YEL 	D-7, D-9
5	U-Shaped Opto Assy, OPB812W, 12" Cable, GRN	Witch Home (Up) Switch	19-3032-05	Left Side	J6/GRN 	D-7, D-9
6	U-Shaped Opto Assy, OPB812W, 12" Cable, BLU	Witch Melted (Down) Switch	19-3032-06	Left Side	J7/BLU 	D-7, D-9
7	Castle Exit Opto Cable Assy	Castle Exit Switch	19-3017-02	Left Side	J8/VIO 	D-7, D-9
8	3-Ball Lock Opto Cable Assy	Ramp Lock #1 Switch	19-3013-00	Right Side	J1/BLK 	D-7, D-10
9	3-Ball Lock Opto Cable Assy	Ramp Lock #2 Switch	19-3013-00	Right Side	J2/BRN 	D-7, D-10
10	3-Ball Lock Opto Cable Assy	Ramp Lock #3 Switch	19-3013-00	Right Side	J3/RED 	D-7, D-10
11	U-Shaped Opto Assy, OPB812W, 12" Cable, ORN	Spinning House Home Switch	19-3032-03	Right Side	J4/ORN 	D-7, D-10
12	U-Shaped Opto Assy, OPB812W, 12" Cable, YEL	Spinning House Step Notch Switch	19-3032-04	Right Side	J5/YEL 	D-7, D-10
13	WOZ Throne Room VUK Opto Cable, BLU	Throne Room VUK Switch	19-3003-06	Right Side	J7/BLU 	D-7, D-10
14	Right Orbit Enter Opto Cable Assy	Right Orbit Enter Switch	19-3017-00	Right Side	J8/VIO 	D-7, D-10

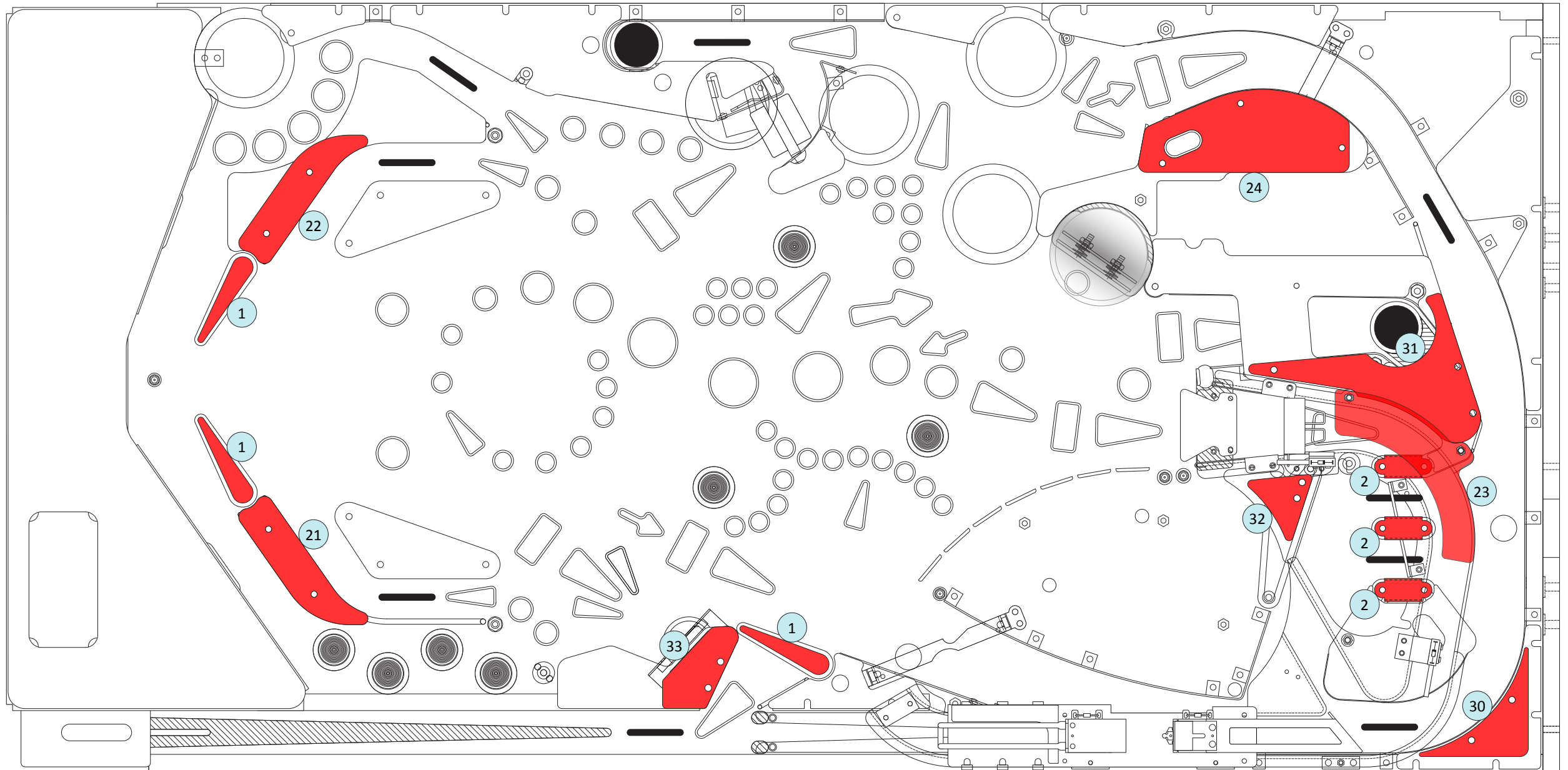


Printed/Decorative Playfield Plastics

Item	Part Number	Description
0	30-3000-00	WOZ There's No Place Like Home Plastic
1	30-3000-01	WOZ Right Inlane Plastic
2	30-3000-02	WOZ Left Slingshot Plastic
3	30-3000-03	WOZ Right Slingshot Plastic
4	30-3000-04	WOZ Bottom Left Corner Plastic
5	30-3000-05	WOZ Crystal Ball VUK Plastic
6	30-3000-06	WOZ Bottom Tree Bumper Plastic
7	30-3000-07	WOZ Throne Room Plastic
NS 75	32-0017-00	WOZ Toto In Dorothy's Basket Sculpture
NS 75	10-0135-00	WOZ Toto Mtg Brkt
8	30-3000-08	WOZ Upper Right Flipper Plastic
9	30-3000-09	WOZ Skill Shot Target Plastic
10	30-3000-10	WOZ Left Winged Monkey Tgt Plastic
11	30-3000-11	WOZ Top Left Plastic
12	30-3000-12	WOZ Top Right Corner Plastic
13	30-3000-13	WOZ Right Winged Monkey Tgt Plastic
14	30-3000-14	WOZ Top Slingshot Plastic
15	30-3000-15	WOZ Top Lanes, Right Plastic
NS 75	32-0016-00	WOZ Tornado Sculpture
NS 75	10-0134-00	WOZ Tornado Mtg Brkt
16	30-3000-16	WOZ Winkie Guard VUK Plastic
17	30-3000-17	WOZ Under-House Plastic
18 LE	30-3000-18	WOZ Castle Lock Up To 5 Balls Plastic
Std	30-3000-18	WOZ Castle Lock Up To 5 Balls Plastic
75	32-0015-00	WOZ 3D Castle Divider Wall
19 LE	30-3000-19	WOZ Castle Spell RESCUE Plastic
Std	30-3000-19	WOZ Castle Spell RESCUE Plastic
75	32-0018-00	WOZ 3D Castle Side Wall, Left
20 LE	30-3000-20	WOZ Castle Lower Right Corner Plastic
Std	30-3000-20	WOZ Castle Lower Right Corner Plastic
75	32-0014-00	WOZ 3D Castle Side Wall, Right

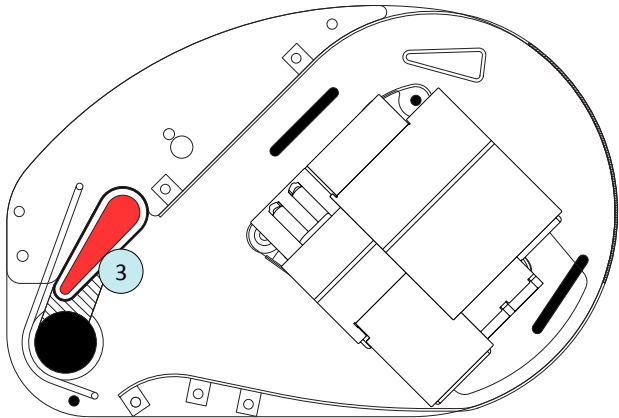
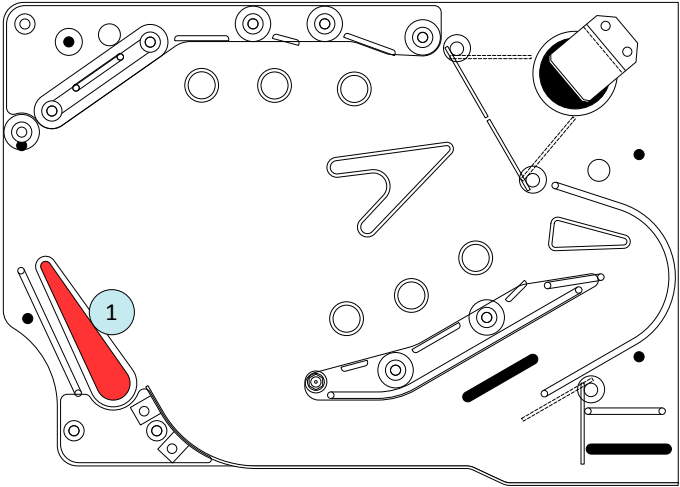
Item	Part Number	Description
21	32-5002-00	WOZ LE/Std Castle Walls Assy
a)	32-0006-00	WOZ Upper Castle Wall Molded Plastic
NS	30-0041-01	Push Rivet, Click-Lock, 0.118-0.158" (2 ea)
or 75	32-0012-00	WOZ 3D Upper Castle Wall, Left
75	10-0040-01	WOZ 3D Upper Castle Wall Brkt, Left
b)	10-0040-00	WOZ Upper Castle Wall Support Brkt, Left
c)	10-0041-00	WOZ Upper Castle Wall Support Brkt, Right
or 75	32-0013-00	WOZ 3D Upper Castle Wall, Right
75	10-0041-01	WOZ 3D Upper Castle Wall Brkt, Right
d)	32-0006-01	WOZ Front Castle Wall Molded Plastic
e)	32-0006-02	WOZ Side Castle Wall Molded Plastic
22	31-5005-00	WOZ Munchkin Hut Assy
a)	32-0003-00	Munchkin Hut Base Molded Plastic
b)	32-0003-01	Munchkin Hut Roof Molded Plastic
23	32-0001-00	Ruby Red Slipper, Left
24	32-0001-01	Ruby Red Slipper, Right
NS	61-9002-00	Slipper Flipper Tape (2 pcs)
25	15-5003-02	WOZ Rainbow Plastic/RGB LED PCB Assy
a)	30-3001-00	WOZ Rainbow Plastic
b)	25-1002-00	WOZ Rainbow Light Divider Foam
c)	15-0008-10	WOZ Rainbow RGB LED Board (WOZLED10)
NS	25-9005-04	1/4" DN Rubber Post (2 ea)
NS	30-0041-01	Push Rivet, Click-Lock, 0.118-0.158" (2 ea)
d)	10-0082-00	Rainbow Plastic Support Brkt, Right
e)	10-0082-01	Rainbow Plastic Support Brkt, Left
28	30-3000-28	WOZ Haunted Forest Sign Plastic (on siderail)
NS	10-0039-02	WOZ Haunted Forest Sign Mtg Brkt
29	30-3000-29	WOZ Top Lanes Sign Plastic (on Emerald City Ramp)
34	30-3000-34	WOZ Winged Monkey Plastic (on Winged Monkey Assy)

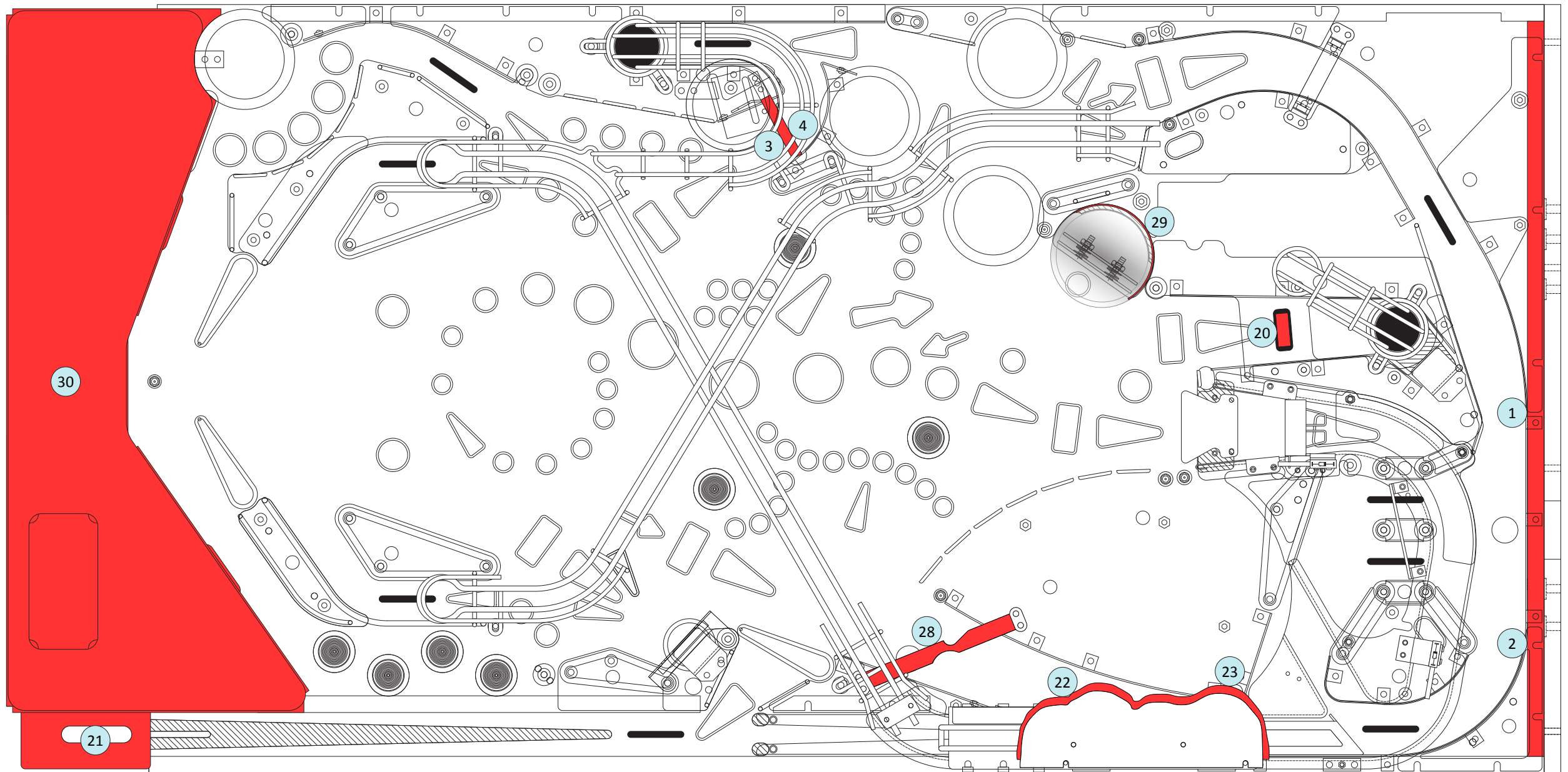




Clear Plastics, Light Hoods & Flipper Bats

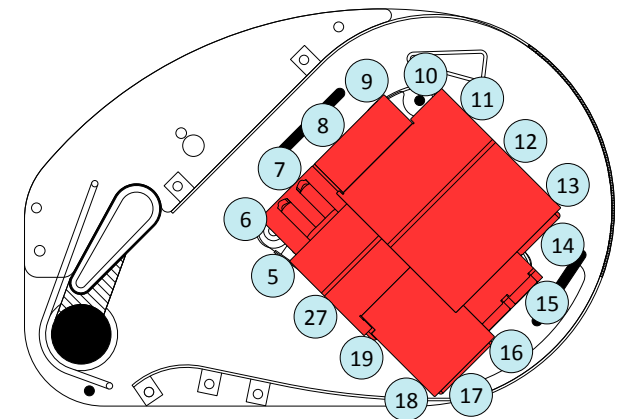
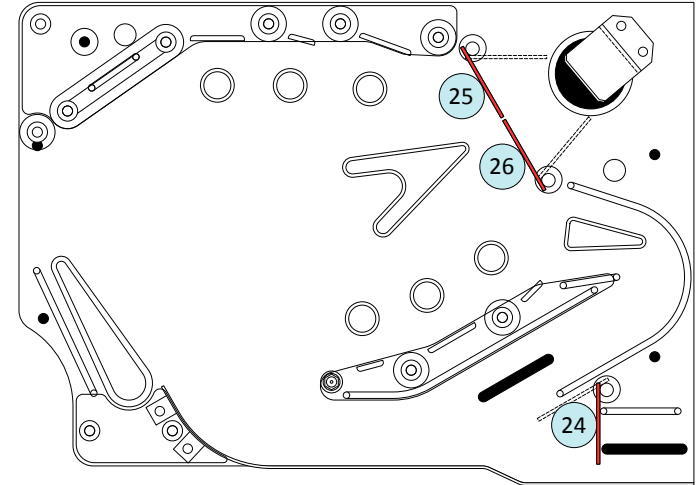
Item	Part Number	Description
1	30-0012-00	Flipper Bat, Black (4 ea)
2	30-0017-13	Clear Light Hood, 1-1/4" (3 ea)
3	30-0013-00-4	Mini Flipper Bat, Yellow, 4.19" Shaft
21	30-3000-21	WOZ Clear Right Inlane Plastic
NS	25-9005-08	1/2" DN Rubber Post (2 ea)
22	30-3000-22	WOZ Clear Left Inlane Plastic
NS	25-9005-08	1/2" DN Rubber Post (2 ea)
23	30-3000-23	WOZ Clear Ramp Protector Plastic
24	30-3000-24	WOZ Clear Under-Castle Plastic
NS	25-9005-08	1/2" DN Rubber Post (3 ea)
30	30-3000-30	WOZ Clear Top Right Corner Plastic
NS	25-9005-12	3/4" DN Rubber Post (2 ea)
31	30-3000-31	WOZ Clear Winkie Guard VUK Plastic
NS	25-9005-08	1/2" DN Rubber Post (3 ea)
32	30-3000-32	WOZ Clear Top Slingshot Plastic
NS	25-9005-12	3/4" DN Rubber Post (2 ea)
33	30-3000-33	WOZ Clear Throne Room Plastic
NS	25-9005-08	1/2" DN Rubber Post (2 ea)

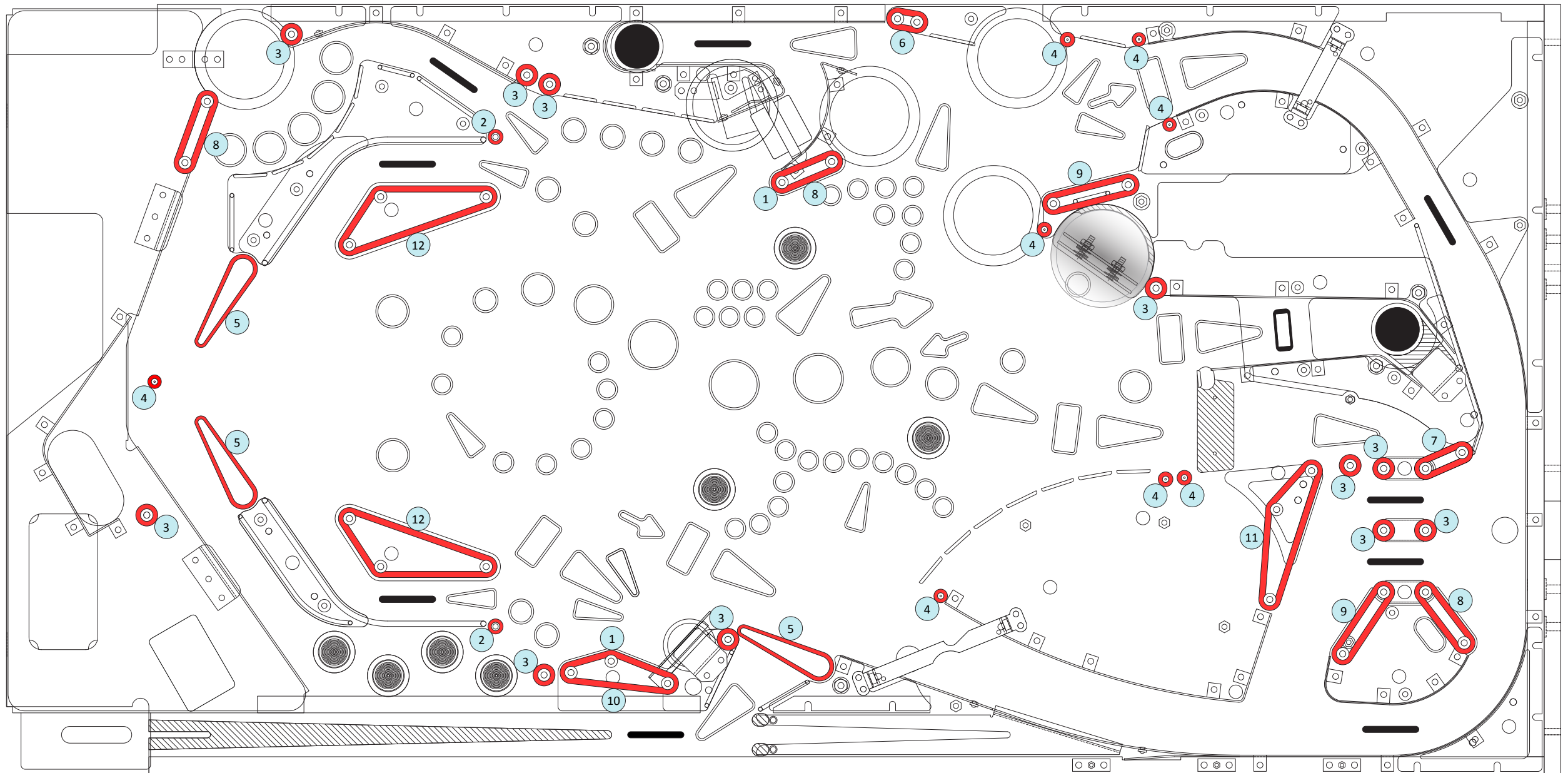


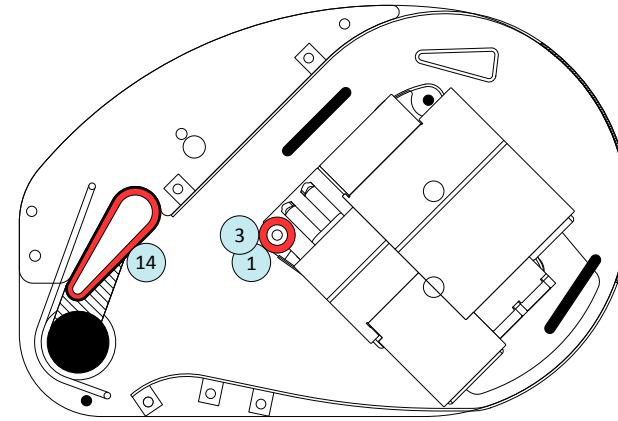
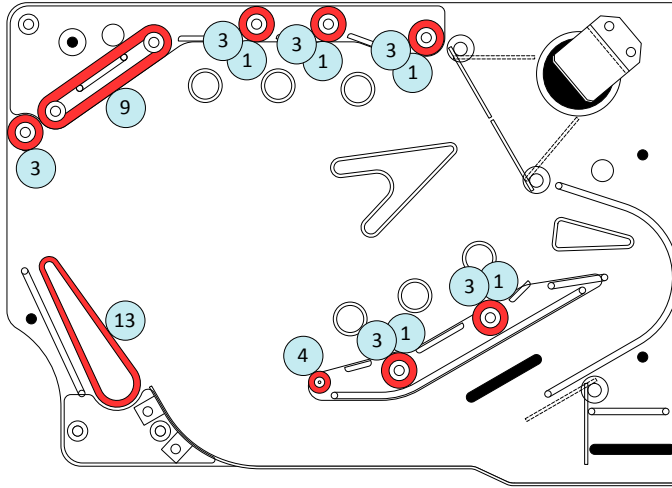


Playfield Decals

Item	Part Number	Description	Part Of Assembly	Drawing
1	62-0001-01	WOZ Back Panel Decal, Left	51-5015-00	-
2	62-0001-02	WOZ Back Panel Decal, Right	51-5015-00	-
3	62-0001-03	WOZ Spinner Decal, Front	18-7002-00	C-11
4	62-0001-04	WOZ Spinner Decal, Back	18-7002-00	C-11
5	62-0001-05	WOZ House Witch Wall, Inner Decal	52-0022-00	C-40
6	62-0001-06	WOZ House Witch Wall, Yellow Brick Decal	52-0022-00	C-40
7	62-0001-07	WOZ House Witch Wall, Outer Decal	52-0022-00	C-40
8	62-0001-08	WOZ House Right Side, Front Wall Decal	52-0022-00	C-40
9	62-0001-09	WOZ House Right Side, Back Wall Decal	52-0022-00	C-40
10	62-0001-10	WOZ House Rear Wall, Left decal	52-0022-00	C-40
11	62-0001-11	WOZ House Right Side, Inner Wall Decal	52-0022-00	C-40
12	62-0001-12	WOZ House Rear, Inner Left Side, Wall Decal	52-0022-00	C-40
13	62-0001-13	WOZ House Rear Porch, Floor Decal	52-0022-00	C-40
14	62-0001-14	WOZ House Front Porch, Floor Decal	52-0022-00	C-40
15	62-0001-15	WOZ House Rear Porch, Roof Decal	52-0022-00	C-40
16	62-0001-16	WOZ House Large Roof Decal	52-0022-00	C-40
17	62-0001-17	WOZ House Small Roof Decal	52-0022-00	C-40
18	62-0001-18	WOZ House Left Wall decal	52-0022-00	C-40
19	62-0001-19	WOZ House Rear Door, Wall Decal	52-0022-00	C-40
20	62-0001-20	WOZ Winkie Guard Drop Tgt Decal	51-0013-00	C-26
21	LE 62-0001-21	WOZ Shooter Gauge Decal, Emerald Green	52-0035-00	C-45
	Std 62-0001-21	WOZ Shooter Gauge Decal, Emerald Green	52-0035-00	C-45
	75 62-0001-21R	WOZ Shooter Gauge Decal, Ruby Red	52-0035-00	C-45
22	62-0001-22	WOZ Munchkin Hut Large Decal	31-5005-00	C-16
23	62-0001-23	WOZ Munchkin Hut Small Decal	31-5005-00	C-16
24	62-0001-24	WOZ Single Door Decal	52-0004-00	C-37
25	62-0001-25	WOZ Double Door Decal, Left	52-0005-00	C-38
26	62-0001-26	WOZ Double Door Decal, Right	52-0005-00	C-38
27	62-0001-27	WOZ House Front Door, Wall Decal	52-0022-00	C-40
28	62-0003-00	Large Opto Brkt Decal	51-0036-01	C-33
29	62-0004-00	WOZ Witch Tube Decal	52-0031-00	C-43
30	Std 62-0007-00	WOZ Bottom Arch Decal, Emerald Green	52-0035-00	C-45
	75 62-0007-01	WOZ 75 th Anniversary Bottom Arch Decal	52-0035-02	C-45

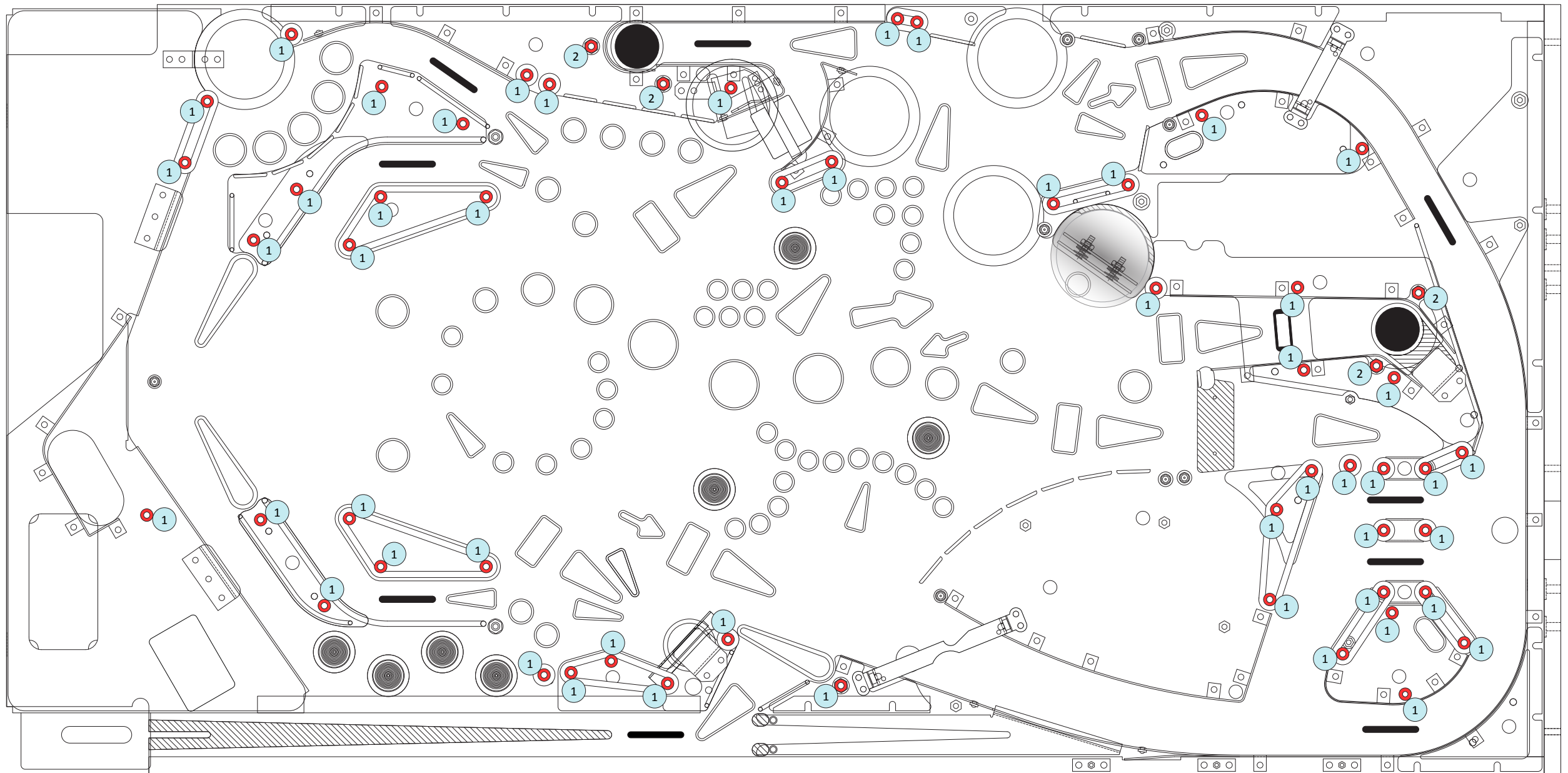


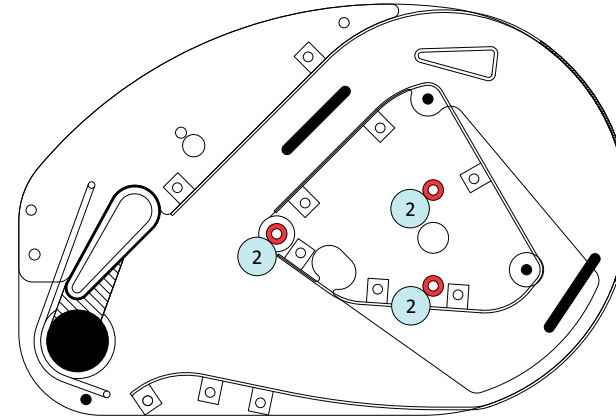
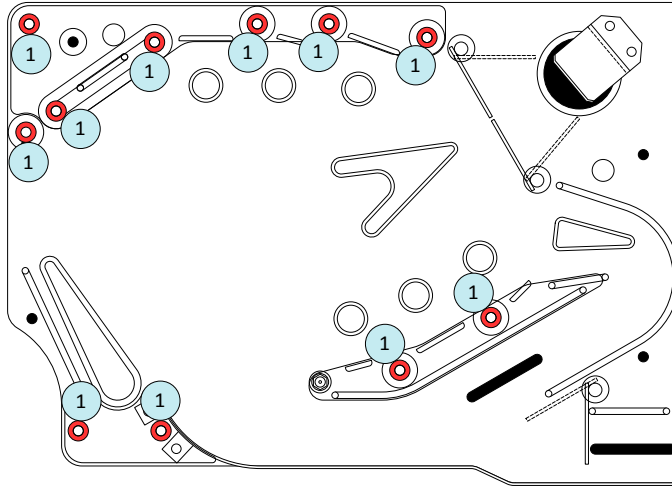




Rubber Rings

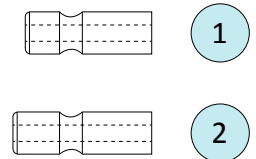
Item	Part Number	Description	Main PF	Castle	Munchkinland
1	25-6001-00	Poly Post Rubber Sleeve, Short, .59" Diam	2	5	1
2	25-6002-00	Post Rubber Sleeve, 1-1/16", Black	2	-	-
3	25-6003-03-0	3/16" ID Bumper Post Rubber, Black	11	6	1
4	25-6003-07-0	7/16" OD Mini Post Rubber, Black	8	1	-
5	25-2001-00	Flipper Rubber Ring, 1-1/2", Black	3	-	-
6	25-2003-07-0	Rubber Ring, 7/16", Black	1	-	-
7	25-2003-12-0	Rubber Ring, 3/4", Black	1	-	-
8	25-2003-16-0	Rubber Ring, 1", Black	3	-	-
9	25-2003-20-0	Rubber Ring, 1-1/4", Black	2	1	-
10	25-2003-24-0	Rubber Ring, 1-1/2", Black	1	-	-
11	25-2003-32-0	Rubber Ring, 2", Black	1	-	-
12	25-2003-40-0	Rubber Ring, 2-1/2", Black	2	-	-
13	25-2001-03	Flipper Rubber Ring, 1-1/2", Orange	-	1	-
14	25-2002-00	Mini Flipper Rubber Ring, 1", Black	-	-	1

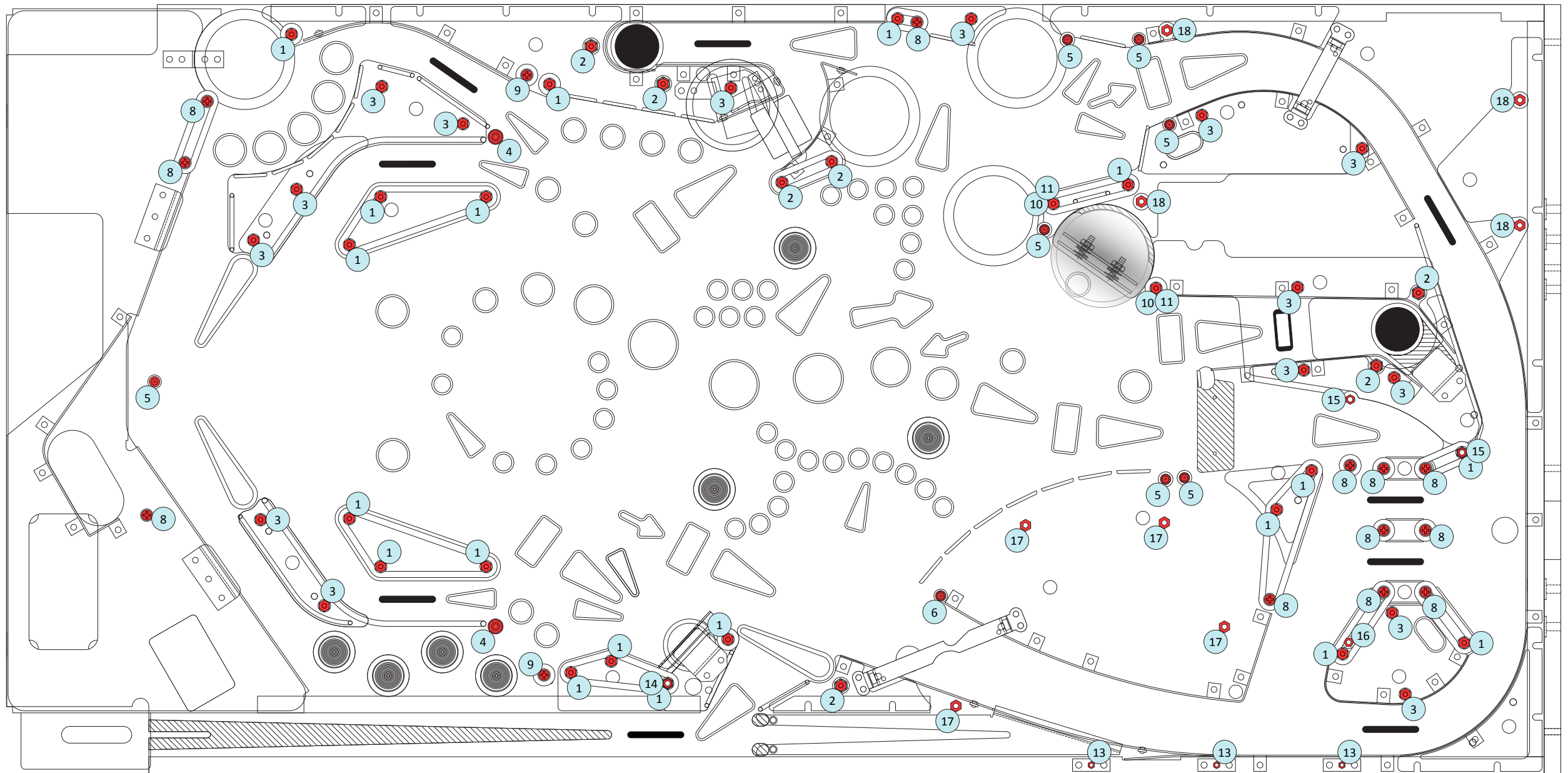


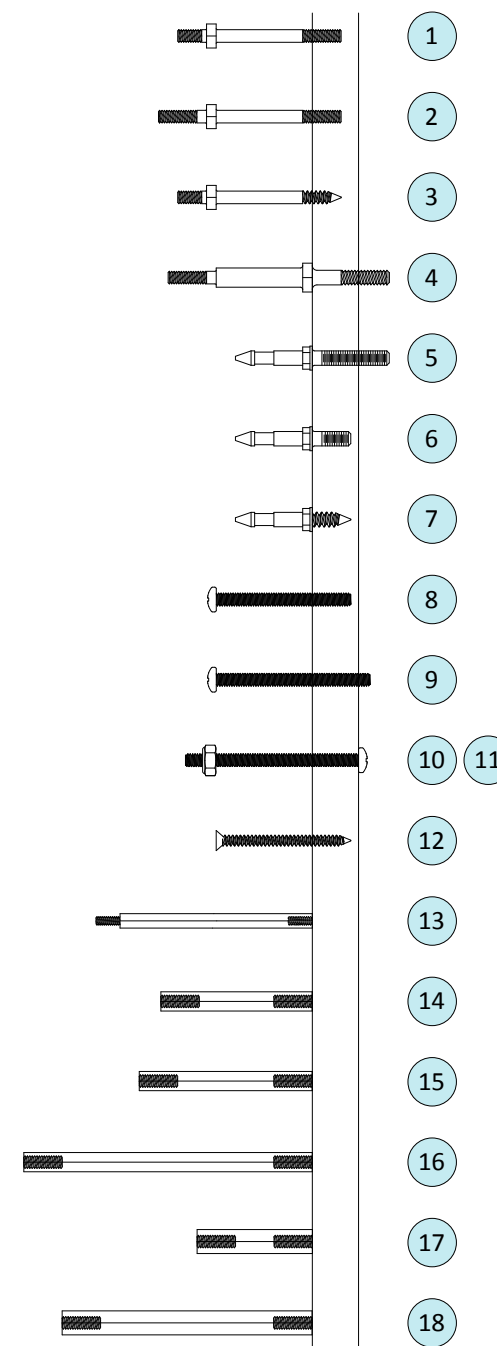
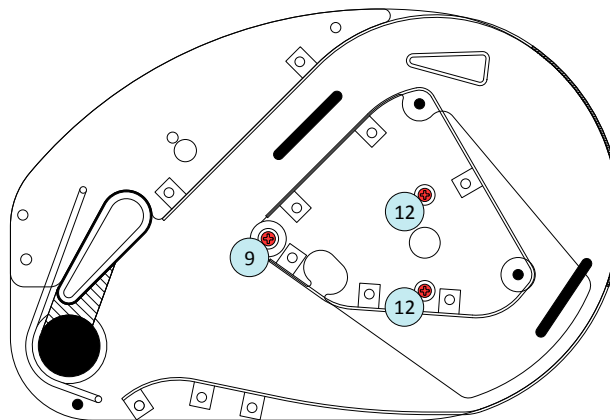
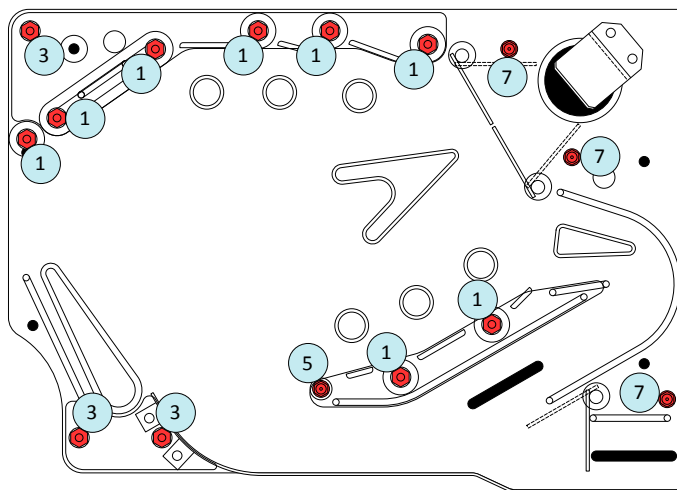


Plastic Playfield Posts

Item	Part Number	Description	Main PF	Castle	Munchkinland
1	30-9004-12	1-1/16" Standard Poly Post, Clear	52	11	-
2	30-9000-04	1-3/16" Poly Post, Yellow	4	-	3

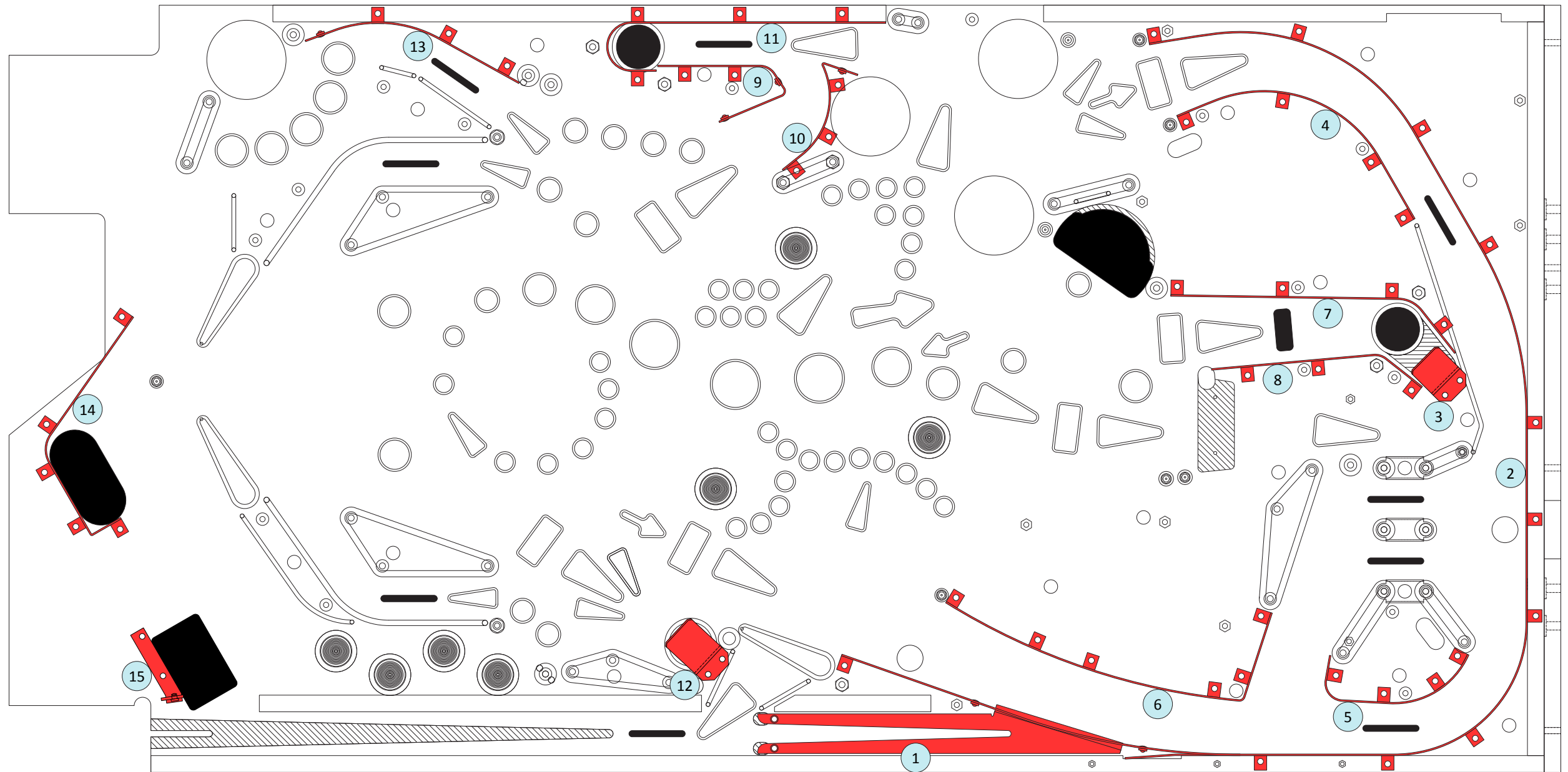


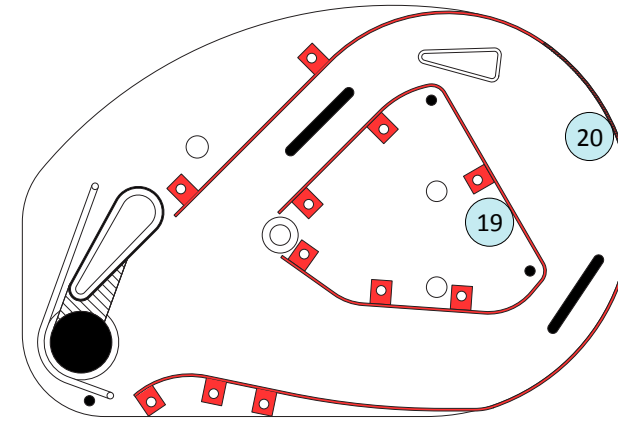
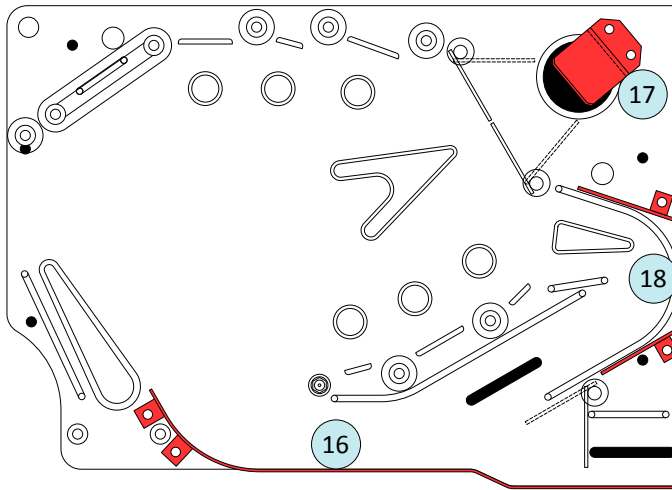




Metal Playfield Posts, Screws & Hex Spacers

Item	Part Number	Description	Main PF	Castle	Munchkinland
1	97-0008-00	8-32/8-32 Butyrate Fastener Post, 2-1/8"	19	8	-
2	97-0008-01	8-32/8-32 Ramp Fastener Post, 2-3/8"	7	-	-
3	97-0008-02	8-32/WS Butyrate Fastener Post, 2-1/8"	15	3	-
4	97-0009-02	5/16" Hex Sleeve Ramp Fastener Post, 2-7/8"	2	-	-
5	97-0010-00	Steel Mini Post, 10-32, 2"	7	1	-
6	97-0010-01	Steel Mini Post, 10-32, 1-1/2"	1	-	-
7	97-0010-02	Steel Mini Post, #10, WS, 1-1/2"	3	3	-
8	80-0008-28	8-32 x 1-3/4" PPH MS	12	-	-
9	80-0008-32	8-32 x 2" PPH MS	2	-	1
10	80-0008-36	8-32 x 2-1/4" PPH MS (from underside)	2	-	-
11	91-0008-00	8-32 Nylon Stop Nut (on item 10)	2	-	-
12	82-6006-28	#6 x 1-3/4" PFH SMS, w/Undercut	-	-	2
13	94-0304-40	3/16" x 2-1/2" Hex Spacer, M-F, 4-40, Black	3	-	-
14	94-0408-32	1/4" x 2" Hex Spacer, F-F, 8-32, Black	1	-	-
15	94-0408-36	1/4" x 2-1/4" Hex Spacer, F-F, 8-32, Black	2	-	-
16	94-0408-60	1/4" x 3-3/4" Hex Spacer, F-F, 8-32, Black	1	-	-
17	95-0508-24	5/16" x 1-1/2" Hex Spacer, F-F, 8-32, Black	4	-	-
18	95-0508-52	5/16" x 3-1/4" Hex Spacer, F-F, 8-32, Black	4	-	-

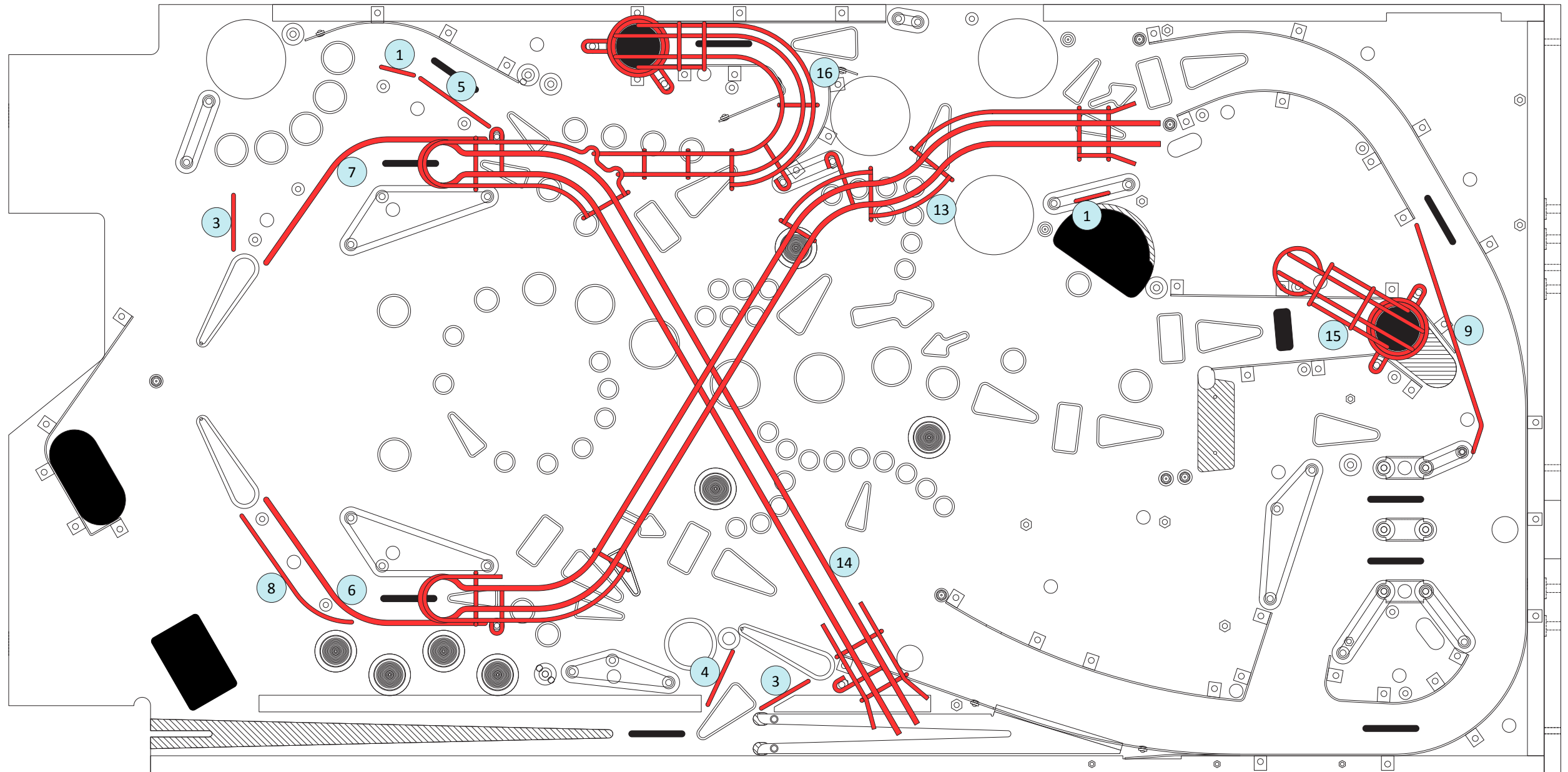




Flatrails & Ball Deflector Brackets

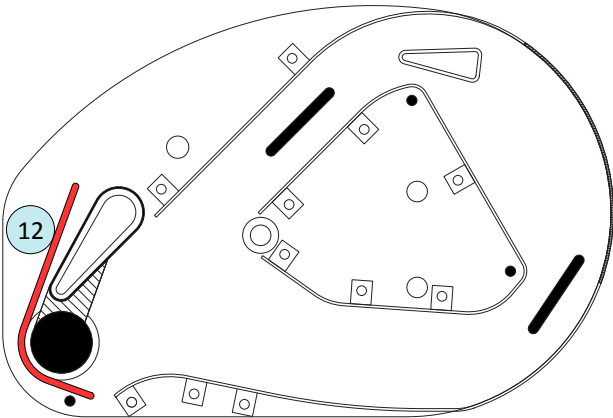
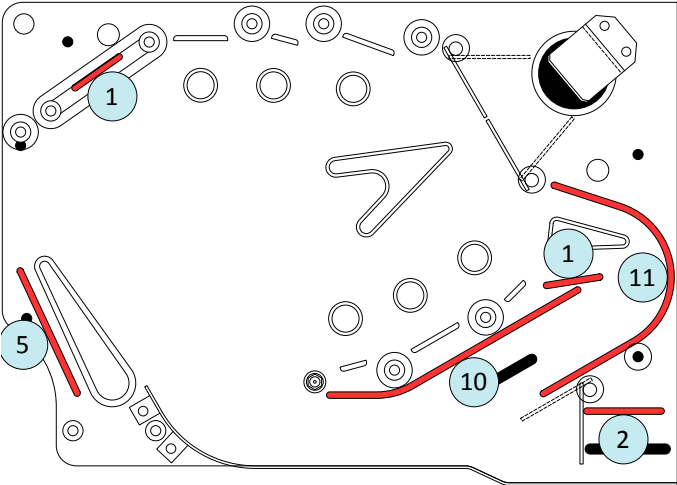
Item	Part Number	Description
1	10-9001-00	Shooter Lane Metal Ramp
2	12-0001-00	WOZ Main Loop Flatrail
3	10-3001-00	Snubber Brkt
4	12-0002-00	WOZ Main Loop, Upper Left Flatrail
5	12-0003-00	WOZ Main Loop, Upper Right Flatrail
6	12-0004-00	WOZ Main Loop, Mid Right Flatrail
7	12-0005-00	WOZ Left Winkie Guard Flatrail
8	12-0006-00	WOZ Right Winkie Guard Flatrail
9	12-0007-00	WOZ Left Spinner Flatrail
10	12-0008-00	WOZ Right Spinner Flatrail

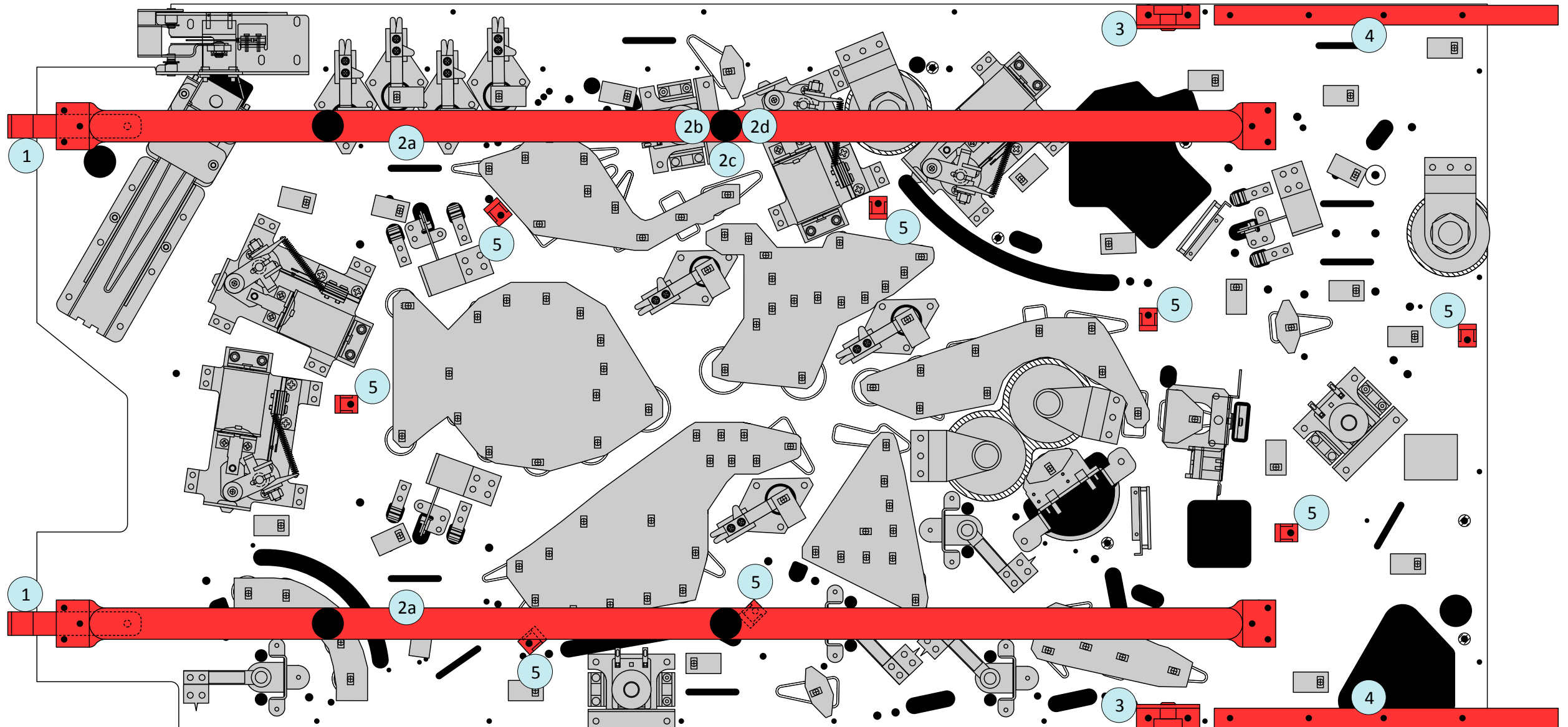
Item	Part Number	Description
11	12-0009-00	WOZ Bumper Exit Flatrail
12	10-3001-01	Snubber Brkt, Extended
13	12-0010-00	WOZ Left Outlane Flatrail
14	12-0016-00	Ball Outhole Flatrail
15	10-0111-00	Ball Stop Brkt
16	12-0011-00	WOZ Castle Playfield Fence/Flatrail
17	10-3001-00	Snubber Brkt
18	12-0017-00	Castle Loop Ball Deflector
19	12-0013-00	WOZ Munchkinland Playfield Inner Loop Flatrail
20	12-0012-00	WOZ Munchkinland Playfield Outer Loop Flatrail



Ball Guide Rails & Wire Ramps

Item	Part Number	Description	Main PF	Castle	Munchkinland
1	13-3000-00	1.00" Straight Ball Guide Rail	2	2	-
2	13-3000-03	1.38" Straight Ball Guide Rail	-	1	-
3	13-3000-05	1.63" Straight Ball Guide Rail	2	-	-
4	13-3000-06	1.75" Straight Ball Guide Rail	1	-	-
5	13-3000-12	2.50" Straight Ball Guide Rail	1	1	-
6	13-3001-00	Right Return Lane Ball Guide Rail	1	-	-
7	13-3001-01	Left Return Lane Ball Guide Rail	1	-	-
8	13-3002-00	Right Outlane Ball Guide Rail	1	-	-
9	13-3003-00	WOZ Main Loop Ball Guide Rail	1	-	-
10	13-3006-00	Castle Playfield Inside Loop Ball Guide Rail	-	1	-
11	13-3007-00	Castle Playfield Outside Loop Ball Guide Rail	-	1	-
12	13-3004-00	Munchkinland Playfield Exit Ball Guide Rail	-	-	1
13	LE 13-0001-00	Castle Exit Wire Ramp, Emerald Green	1	-	-
	Std 13-0001-01	Castle Exit Wire Ramp, Chrome	1	-	-
	75 13-0001-02	Castle Exit Wire Ramp, Ruby Red	1	-	-
14	LE 13-0002-00	Emerald City Exit Wire Ramp, Emerald Green	1	-	-
	Std 13-0002-01	Emerald City Exit Wire Ramp, Chrome	1	-	-
	75 13-0002-02	Emerald City Exit Wire Ramp, Ruby Red	1	-	-
15	LE 13-0003-00	Winkie Guard VUK Wireform, Emerald Green	1	-	-
	Std 13-0003-01	Winkie Guard VUK Wireform, Chrome	1	-	-
	75 13-0003-02	Winkie Guard VUK Wireform, Ruby Red	1	-	-
16	LE 13-0004-00	Crystal Ball Wire Ramp, Emerald Green	1	-	-
	Std 13-0004-01	Crystal Ball Wire Ramp, Chrome	1	-	-
	75 13-0004-02	Crystal Ball Wire Ramp, Ruby Red	1	-	-





Under-Playfield Supports & Brackets

Item	Part Number	Description	Qty
1	10-0014-00	Playfield Hanger Brkt	2
2	51-5030-00	Playfield Support Tube Assy	2
a)	10-0093-00	Playfield Support Tube	2
b)	80-7010-24	10-24 x 1-1/2" Phillips TH MS	4
c)	91-0011-00	10-24 Nylon Stop Nut	4
d)	25-9008-00	Playfield Support Rubber Spacer	4
3	11-7000-00	Playfield Hinge Brkt Assy	2
4	10-0013-00	Playfield Lift Support Brkt, 11.2"	2
5	30-0033-01	Nylon Cable Ladder, 3.5"	8

Assembly Mounting Hardware

Assembly				Mounting Hardware		
Part Number	Name	Mounts To	Drawing	Part Number	Description	Qty
31-5003-0#	WOZ Backbox Topper Assy	Backbox	C-4	91-2010-00	10-32 Flange Nut	3
51-5010-00	Backbox Speaker Bar Assy	Backbox	C-4	92-0010-00	#10 Flat Washer	3
10-0004-00	Backbox Vent Hole Cover	Backbox	C-4	92-0010-00	#10 Flat Washer	5
51-5011-00	Backbox Light Bar Assy	Backbox	C-4	80-8110-10	10-32 x 5/8" TP Torx MS	5
51-5032-00	27" LCD Monitor Assy	Backbox	C-4	82-2008-08	#8 x 1/2" HWH Phillips SMS	8
51-5024-00	26" LCD Monitor Assy	Backbox	C-4	82-2008-08	#8 x 1/2" HWH Phillips SMS	3
10-0034-00	Backbox L Brkt, Lower (2)	Backbox	C-4	80-2008-06	8-32 x 3/8" HWH Phillips MS, Serrated	4
42-5002-00	Roto-Lock Receptacle	Backbox	C-4	80-2010-08	10-32 x 1/2" HWH Phillips MS, Serrated	15
42-5001-00	Roto-Lock Latch	Cabinet	C-2	91-5010-00	10-32 Hex Drive Flanged Insert	6
10-0003-00	Cabinet Vent Hole Cover (3)	Cabinet	C-2	80-2025-08	1/4-20 x 1/2" HWH Phillips MS, Serrated	4
10-0007-00	Cabinet Backing Plate	Cabinet	C-2	91-5025-00	1/4-20 Hex Drive Flanged Insert	6
51-5025-00	Jack in the Back Assy	Cabinet	C-2	91-0011-00	10-24 Lock Nut	2
51-5023-00	Line Filter Box Assy	Cabinet	C-2	92-0010-00	#10 Flat Washer	2
10-0010-00	Line Cord Cover Plate	Cabinet	C-2	81-5011-28	10-24 x 1-3/4" Black Carriage Bolt	2
10-0006-00	Cabinet Leg Mtg Brkt (4)	Cabinet	C-2	91-0011-00	10-24 Lock Nut	2
10-0001-02	Cabinet Leg Assy, Chrome (4)	Cabinet	C-2	92-0010-00	#10 Flat Washer	2
10-0001-03	Cabinet Leg Assy, Powder Green (4)	Cabinet	C-2	81-5011-28	10-24 x 1-3/4" Black Carriage Bolt	2
15-0007-00	Opto I/O Board (2)	Playfield, Under	C-52	82-2008-08	#8 x 1/2" HWH Phillips SMS	30
16-5000-00	Main Transformer	Cabinet	C-2	82-8108-10	#8 x 5/8" TP T-20 Torx SMS, Black	4
18-0005-01	Flipper Switch, Double Contact (2)	Cabinet	C-2	82-2008-08	#8 x 1/2" HWH Phillips SMS	4
51-5027-01	Shaker Motor Assy	Cabinet	C-2	82-2008-08	#8 x 1/2" HWH Phillips SMS	4
51-0028-00	Plumb Bob Tilt Assy	Cabinet	C-2	80-2008-16	8-32 x 1" HWH Phillips MS, Serrated	2
51-0031-00	Ball Shooter Assy	Cabinet	C-2	82-2008-08	#8 x 1/2" HWH Phillips SMS	24
				90-8038-40	Leg Bolt, Acorn Head, 3/8-16 x 2-3/4"	8
				10-5020-00	Opto I/O PCB Mtg Brkt	2
				80-0004-10	4-40 x 5/8" PPH MS	8
				94-3005-00	#4 x 3/8" Nylon PCB Stand-Off	8
				82-2008-08	#8 x 1/2" HWH Phillips SMS	4
				80-2025-08	1/4-20 x 1/2" HWH Phillips MS, Serrated	4
				92-0025-00	1/4" Flat Washer	4
				91-4025-00	1/4-20 T-Nut, 1/2" Diameter	4
				82-2006-20	#6 x 1-1/4" HWH SMS	4
				80-2008-08	8-32 x 1/2" HWH Phillips MS, Serrated	4
				91-4008-00	8-32 T-Nut, 1/2" Diameter	4
				82-2008-08	#8 x 1/2" HWH Phillips SMS	4
				80-2010-08	10-32 x 1/2" HWH Phillips MS, Serrated	3

Assembly				Mounting Hardware		
Part Number	Name	Mounts To	Drawing	Part Number	Description	Qty
51-0032-00	Knocker Assy	Cabinet	C-2	82-2008-08	#8 x 1/2" HWH Phillips SMS	5
51-0035-00	Door & Interlock Switch Assy	Cabinet	C-2	82-2008-08	#8 x 1/2" HWH Phillips SMS	2
51-5001-00	Power Box Assy	Cabinet	C-2	82-2008-08	#8 x 1/2" HWH Phillips SMS	4
10-0005-00	Lockdown Bar Lever Guide Assy	Cabinet	C-2	80-2025-08	1/4-20 x 1/2" HWH Phillips MS, Serrated	2
				91-5025-00	1/4-20 Hex Drive Flanged Insert	2
				82-2008-08	#8 x 1/2" HWH Phillips SMS	2
40-000#-00	Coin Door Assy	Cabinet	C-2	81-5125-20	1/4-20 x 1-1/4" Carriage Bolt, Black	4
				91-2025-00	1/4-20 flange Nut	4
42-7003-0#	Cabinet Side Rail (2)	Cabinet	C-2	81-5108-16	8-32 x 1" Carriage Bolt, Black	4
				82-6006-20	#6 x 1-1/4" PFH SMS, w/Undercut	4
10-0033-0#	Playfield Support/Slide Brkt (2)	Cabinet	C-2	80-2010-08	10-32 x 1/2" HWH Phillips MS, Serrated	8
				91-5010-00	10-32 Hex Drive Flanged Insert	8
17-6002-00	Subwoofer Speaker	Cabinet	C-2	80-2008-16	8-32 x 1" HWH Phillips MS, Serrated	4
				91-4008-00	8-32 T-Nut, 1/2" Diameter	4
52-0035-00	WOZ Bottom Arch Assy	Playfield, Top	C-45	82-2008-08	#8 x 1/2" HWH Phillips SMS	6
				80-2008-08	8-32 x 1/2" HWH Phillips MS, Serrated	2
13-2001-0#	Castle Exit Wire Ramp Assy	Playfield, Top	C-6	92-0008-00	#8 Flat Washer	4
				91-0008-00	8-32 Nylon Stop Nut	2
13-0002-0#	Emerald City Exit Wire Ramp	Playfield, Top	C-6	92-0008-00	#8 Flat Washer	4
				91-0008-00	8-32 Nylon Stop Nut	2
13-0003-0#	Winkie Guard VUK Wireform	Playfield, Top	C-6	92-0008-00	#8 Flat Washer	4
				91-0008-00	8-32 Nylon Stop Nut	2
13-0004-0#	Crystal Ball Wire Ramp	Playfield, Top	C-6	92-0008-00	#8 Flat Washer	6
				91-0008-00	8-32 Nylon Stop Nut	3
18-7002-00	Spinner & Switch Assy	Playfield, Top	C-6	82-2008-08	#8 x 1/2" HWH Phillips SMS	2
18-7003-00	Rollover Button Switch Assy	Playfield, Top	C-6	82-2008-08	#8 x 1/2" HWH Phillips SMS	3
31-5001-00	WOZ Emerald City Ramp Assy	Playfield, Top	C-6	80-2008-08	8-32 x 1/2" HWH Phillips MS, Serrated	3
				82-6104-10	#4 x 5/8" PFH SMS, w/Undercut, Black	2
				91-0104-00	4-40 Nylon Stop Nut, Black	3
31-5007-00	Bumper Balloon Assy	Playfield, Top	C-6	82-2008-08	#8 x 1/2" HWH Phillips SMS	2
51-0001-00	Right Flipper Assy, (3)	Playfield, Under	C-8	82-2008-08	#8 x 1/2" HWH Phillips SMS	24
51-0002-##	Left Flipper Assy, (2)	Playfield, Under	C-8	82-2008-08	#8 x 1/2" HWH Phillips SMS	14
51-0003-00	Slingshot Assy (3)	Playfield, Under	C-8	82-2008-08	#8 x 1/2" HWH Phillips SMS	33
51-0004-00	Pop Bumper Bottom Assy (4)	Playfield, Under	C-8	85-8006-20	6-32 x 1-1/4" Screw Nail, Fin Shank, Black	12
				91-0006-00	6-32 Nylon Stop Nut	12
18-7007-00	Pop Bumper Switch (4)	Playfield, Under	C-8	82-2008-08	#8 x 1/2" HWH Phillips SMS	8
51-0005-00	Jump Bumper Top Assy (3)	Playfield, Top	C-6	82-6006-14	#6 x 7/8" PFH SMS, w/Undercut	6
				91-0006-00	6-32 Nylon Stop Nut	6
51-0006-00	Pop Bumper Top Assy (1)	Playfield, Top	C-6	82-6006-14	#6 x 7/8" PFH SMS, w/Undercut	2
				91-0006-00	6-32 Nylon Stop Nut	2

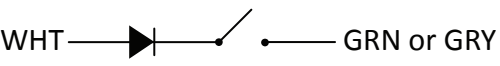
Assembly				Mounting Hardware		
Part Number	Name	Mounts To	Drawing	Part Number	Description	Qty
51-0009-00	Vertical Up-Kicker Assy (3)	Playfield, Under	C-8	82-2008-08	#8 x 1/2" HWH Phillips SMS	12
51-0013-00	1-Bank Drop Target Assy	Playfield, Under	C-8	82-2008-08	#8 x 1/2" HWH Phillips SMS	3
51-0021-00	5-Ball Trough Assy	Playfield, Under	C-8	80-2008-12	8-32 x 3/4" HWH Phillips MS, Serrated	6
51-0024-0#	Playfield Magnet Assy (4)	Playfield, Under	C-8	82-2008-08	#8 x 1/2" HWH Phillips SMS	2
51-0026-00	Auto-Launch Assy	Playfield, Under	C-8	82-2008-08	#8 x 1/2" HWH Phillips SMS	12
51-0034-00	Playfield Oz Head Assy	Playfield, Top	C-6	82-2008-08	#8 x 1/2" HWH Phillips SMS	3
51-0036-0#	Playfield Opto Assy (2)	Playfield, Top	C-6	91-0008-00	8-32 Nylon Stop Nut	1
52-0003-00	Winged Monkey Assy	Playfield, Back Panel	C-6	94-0408-32	1/4" x 2" Hex Spacer, F-F, 8-32, Black	1
52-0004-00	Single Door Assy	Playfield, Under	C-8	82-2008-08	#8 x 1/2" HWH Phillips SMS	8
52-0005-00	Double Door Assy	Playfield, Under	C-8	80-2010-10	10-32 x 5/8" HWH Phillips MS, Serrated	6
52-0006-00	Crystal Ball Assy	Playfield, Top	C-6	82-2008-08	#8 x 1/2" HWH Phillips SMS	2
52-0022-00	House Top Assy	Playfield, Top	C-6	82-2008-08	#8 x 1/2" HWH Phillips SMS	4
52-0023-00	House Motor & Coil Assy	Playfield, Under	C-8	94-3007-00	Nylon Spacer, 0.194" x 0.5" x 0.184", Black	2
52-0029-00	3-Ball Lock/Diverter Assy	Playfield, Top	C-6	92-0008-00	#8 Flat Washer	2
15-5003-02	WOZ Rainbow Plastic/RGB LED PCB Assy	Playfield, Top	C-75	91-0008-00	8-32 Nylon Stop Nut	1
32-0006-00	WOZ Upper Castle Wall Molded Plastic	Playfield, Top	C-75	51-0037-02	House Timing Plate Coupler Assy	1
32-0006-01	WOZ Front Castle Wall Molded Plastic	Playfield, Top	C-75	80-2008-10	8-32 x 5/8" HWH Phillips MS, Serrated	3
32-0006-02	WOZ Side Castle Wall Molded Plastic	Playfield, Top	C-75	91-0104-00	4-40 Nylon Lock Nut, Black	2
52-0031-00	Witch Motor & Shaft Assy	Witch Front Plate & Switch Assy	C-8	82-2008-08	#8 x 1/2" HWH Phillips SMS	3
52-0032-00	Witch Front Plate & Switch Assy	Playfield, Under	C-8	82-2008-08	#8 x 1/2" HWH Phillips SMS	2
11-7000-00	Playfield Hinge Brkt Assy (2)	Playfield, Under	C-90	82-6104-08	#4 x 1/2" PFH SMS, w/Undercut, Black	1
10-0014-00	Playfield Hanger Brkt (2)	Playfield, Under	C-90	82-6104-08	#4 x 1/2" PFH SMS, w/Undercut, Black	2
51-5030-00	Playfield Support Tube Assy (2)	Playfield, Under	C-90	91-0008-00	8-32 Nylon Stop Nut	2
30-0033-01	Nylon Cable Ladder, 3.5" (8)	Playfield, Under	C-90	80-0008-36	8-32 x 2-1/4" PPH MS	2
15-0008-0#	Main RGB LED Board (9)	Playfield, Under	C-52	91-0008-00	8-32 Nylon Stop Nut	2
15-0006-00	Single GI RGB LED Board (31)	Playfield, Under	C-52	94-3005-00	#4 x 3/8" Unthreaded, Nylon PCB Stand-Off	2
15-0008-00	Satellite RGB LED Board (6)	Playfield, Under	C-52	82-2004-14	#4 x 7/8" PPH SMS	2
15-0008-11	Drop Target Satellite RGB LED Board	Playfield, Under	C-52	80-2008-10	8-32 x 5/8" HWH Phillips MS, Serrated	4
				80-2008-12	8-32 x 3/4" HWH Phillips MS, Serrated	2
				80-2008-12	8-32 x 3/4" HWH Phillips MS, Serrated	6
				82-2008-08	#8 x 1/2" HWH Phillips SMS	8
				94-3005-00	#4 x 3/8" Unthreaded, Nylon PCB Stand-Off	44
				82-2004-14	#4 x 7/8" PPH SMS	44
				10-0099-01	Single GI RGB LED Brkt	31
				92-0008-00	#8 Flat Washer	31
				80-2008-08	8-32 x 1/2" HWH Phillips MS, Serrated	31
				94-3005-00	#4 x 3/8" Unthreaded, Nylon PCB Stand-Off	12
				82-2004-14	#4 x 7/8" PPH SMS	12
				94-3005-00	#4 x 3/8" Unthreaded, Nylon PCB Stand-Off	1
				82-2004-14	#4 x 7/8" PPH SMS	1

Assembly Cables

Assembly		Cable	
Part Number	Name	Part Number	Description
31-5003-00	WOZ Emerald City Backbox Topper Assy	19-3039-00	Emerald City Topper LED Cable Assy
31-5003-01	WOZ Flame Pots Backbox Topper Assy	19-3039-01	Flame Pots Topper LED Cable Assy
31-5003-02	WOZ 75th Anniversary Backbox Topper Assy	19-3039-02	75th Anniversary Topper LED Cable Assy
51-5010-00	Backbox Speaker Bar Assy	19-3000-00	Speaker Box Cable Assy
51-5011-00	Backbox Light Bar Assy	19-3041-00	Backbox Light Strip Cable Assy
51-5032-00	27" LCD Monitor Assy	19-3071-00	DVI-D Cable, M-M, 6ft
		19-3072-00	27" LCD Power Cable
51-5024-00	26" LCD Monitor Assy	19-3025-00	VGA 15-pin Sub D Cable, 6ft
51-5023-00	Line Filter Box Assy	19-9000-00	Line Power Cable, USA
Various	RGB LED Boards	Various	See Data Cable Chain Drawing, pg C-54
18-0005-01	Flipper Leaf Switch, Double Contact (Right)	19-3009-00	Right Flipper Switch cable
18-0005-01	Flipper Leaf Switch, Double Contact (Left)	19-3009-01	Left Flipper Switch cable
51-5027-01	Shaker Motor Assy	19-3006-00	Shaker Motor Cable
51-5001-00	Power Box Assy	19-9004-00	Power Box AC Input Cable
17-6002-00	Subwoofer Speaker	19-3024-01	RCA Mono Cable, 1.5ft
13-2001-0X	Castle Exit Wire Ramp Assy	19-3017-02	Castle Exit Opto Cable Assy
18-7002-00	Spinner & Switch Assy	19-3020-00	WOZ Spinner Switch Cable
31-5001-00	WOZ Emerald City Ramp Assy	19-3018-00	WOZ Ramp Switches Cable
51-0001-00	Right Flipper Assy, (Right, Upper Right)	19-3015-00	Flipper End Of Stroke Switch Cable
51-0001-00	Right Flipper Assy, (Castle)	19-3015-01	Flipper End Of Stroke Switch Cable, Extended
		19-3054-00	Castle Flipper Coil Cable
51-0002-00	Left Flipper Assy (Left)	19-3015-00	Flipper End Of Stroke Switch Cable
51-0002-11	Left Flipper Assy, Mod-UR (Munchkinland)	19-3015-00	Flipper End Of Stroke Switch Cable
51-0009-00	Vertical Up-Kicker Assy (Winkie Guard)	19-3003-00	WOZ Winkie Guard VUK Opto Cable, BLK
51-0009-00	Vertical Up-Kicker Assy (Castle Doors)	19-3003-01	WOZ Castle Doors VUK Opto Cable, BRN
51-0009-00	Vertical Up-Kicker Assy (Crystal Ball)	19-3003-04	WOZ Crystal Ball VUK Opto Cable, YEL
51-0009-00	Vertical Up-Kicker Assy (Throne Room)	19-3003-06	WOZ Throne Room VUK Opto Cable, BLU
51-0013-00	1-Bank Drop Target Assy	19-3005-00	1-Bank Drop Tgt Switch Cable
51-0034-00	Playfield Oz Head Assy	19-3016-00	WOZ Oz Head LED Cable Assy
52-0003-00	Winged Monkey Assy	19-3026-00	Monkey Mech Limit Switch Cable
		19-3027-00	Monkey Magnet Coil Cable
		19-3040-00	Monkey Magnet Sense Switch Cable
30-3000-28	WOZ Haunted Forest Sign Plastic	19-3049-00	OZ Lanes & Haunted Forest Signs Cable
30-3000-29	WOZ Top Lanes Sign Plastic	19-3049-00	OZ Lanes & Haunted Forest Signs Cable

Assembly		Cable	
Part Number	Name	Part Number	Description
51-0036-00	Playfield Opto Assy, Small	19-3017-01	Left Orbit Enter Opto Cable Assy
51-0036-01	Playfield Opto Assy, Large	19-3017-00	Right Orbit Enter Opto Cable Assy
52-0006-00	Crystal Ball Assy	19-3058-00	Crystal Ball Monitor Cable
52-0023-00	House Motor & Coil Assy	19-3032-03	U-Shaped Opto Assy, OPB812W, XX" Cable, ORN
		19-3032-04	U-Shaped Opto Assy, OPB812W, XX" Cable, YEL
		19-3037-00	WOZ House Kicker Coil Cable
		19-3038-00	WOZ House Motor Cable
52-0029-00	3-Ball Lock/Diverter Assy	19-3012-00	3-Ball Lock/Diverter Coil Cable Assy
		19-3013-00	3-Ball Lock Opto Cable Assy
52-0031-00	Witch Motor & Shaft Assy	19-3014-00	Witch Motor Cable
		19-3032-05	U-Shaped Opto Assy, OPB812W, XX" Cable, GRN
		19-3032-06	U-Shaped Opto Assy, OPB812W, XX" Cable, BLU
52-0032-00	Witch Front Plate & Switch Assy	19-3033-00	Witch Front Switch Plate Cable
15-5000-01	Cabinet PCB Chassis Assy	19-5004-00	I/O Bd Right-Side Cable Assy
		19-5004-01	I/O Bd Left-Side Cable Assy
		19-9005-01	I/O Bd AC Input Cable, WOZ
		19-3042-03	Ethernet Cable, Cat5E, 3ft
		19-3043-00	3.5mm Audio Cable, 1.5ft
		19-3043-01	3.5mm Audio Cable, 3ft
		19-3047-01	SATA Hard Drive Power Cable
		19-9014-01	CPU Board Input Power Cable
		19-9014-02	CPU Board External Power Cable
		19-9015-01	Amp Board Input Power Cable
		19-9021-00	Chassis RGB LED Power Cable
		19-9022-00	Chassis Opto Power Cable
		19-3062-00	Bridge Rectifier Jumper Cable
		19-3065-00	Chassis Fan Cable
		19-9018-01	I/O Board Switch Power Input Cable
		19-3074-00	USB Cable, 2.0 A to Mini-B, M-M, 3ft (2)
		19-3060-00	3-Wire RCA Cable, 1.5ft
50-5002-00	Lower Cabinet Assy	19-3059-00	USB 2.0 A Extension Cable, M-F, 6ft
		19-9020-00	Dollar Bill Acceptor Power Cable
		19-5003-00	WOZ Cabinet Cable Assy
		19-9009-00	WOZ Transformer Secondary Power Cable
		19-3063-00	Coin Door/Topper Y Power Cable
		19-3064-00	Left-Side Opto Board Power Cable
		19-3064-01	Right-Side Opto Board/Trough Y Power Cable

Matrixed Switch Wiring Table



		Column 1		Column 2		Column 3		Column 4		Column 5		Column 6		Column 7		Column 8		Column 9		Column 10		Column 11		Column 12		Column 13		Column 14		Column 15		Column 16	
		J201-1		J201-2		J201-3		J201-4		J201-5		J201-6		J201-7		J201-9		J202-1		J202-2		J202-3		J202-4		J202-5		J202-6		J202-8		J202-9	
		GRN	BLK	GRN	BRN	GRN	RED	GRN	ORN	GRN	YEL	GRN	GRY	GRN	BLU	GRN	VIO	GRY	BLK	GRY	BRN	GRY	RED	GRY	ORN	GRY	YEL	GRY	GRN	GRY	BLU	GRY	VIO
Row 1 J200-1		1 5-Ball Trough #1 (Left)		9 Ramp Ball Lock #1 (Front)		17 Winkie Guard VUK		25 Left Slingshot, High		33 Right Slingshot, High		41 State Fair Balloon Bumper		49 Left Tree Bumper		57 Witch Target, Left		65 RESCUE		73 Winkie Guard Drop Target		81 Wizard of OZ™		89 RAINBOW		97		105		113		121	
WHT	BLK																																
Row 2 J200-2		2 5-Ball Trough #2		10 Ramp Ball Lock #2		18 Castle Doors VUK		26 Left Slingshot, Low		34 Right Slingshot, Low		42 State Fair Balloon Rubber		50 Right Tree Bumper		58 Witch Target, Right		66 RESCUE		74 Glinda Target		82 Wizard of OZ™		90 RAINBOW		98 Horse Of A Different Color Collect		106		114		122	
WHT	BRN																																
Row 3 J200-3		3 5-Ball Trough #3		11 Ramp Ball Lock #3 (Back)		19		27 Left Return Lane		35 Right Return Lane		43 THERE'S NO PLACE LIKE HOME™		51 Center Tree Bumper		59		67 RESCUE		75 Emerald City Ramp Enter		83 Top Lanes Slingshot, Left		91 RAINBOW		99		107		115		123	
WHT	RED																																
Row 4 J200-4		4 5-Ball Trough #4		12 Spinning House Home		20 Castle Exit (On Wire Ramp)		28 Left Outlane		36 Shooter Lane		44 THERE'S NO PLACE LIKE HOME™		52 Bumper Entry Rubber		60		68 RESCUE		76 Emerald City Ramp Made		84 Top Lanes Slingshot, Right		92 RAINBOW		100		108		116		124	
WHT	ORN																																
Row 5 J200-5		5 5-Ball Trough VUK		13 Spinning House Step Notch		21 Crystal Ball VUK		29 Crystal BALL		37 TOTO		45 THERE'S NO PLACE LIKE HOME™		53 Bumper Exit Lane		61 WINGED MONKEY™		69 RESCUE		77 Castle Door Bash, Left		85 RAINBOW		93 RAINBOW		101 Munchkinland Loop, Upper		109		117		125	
WHT	YEL																																
Row 6 J200-6		6 5-Ball Trough Jam		14		22 Witch Home (Up)		30 Crystal BALL		38 TOTO		46 THERE'S NO PLACE LIKE HOME™		54 Crystal Ball Spinner		62 WINGED MONKEY™		70 RESCUE		78 Castle Door Bash, Right		86 RAINBOW		94 RAINBOW		102 Munchkinland Loop, Lower		110		118		126	
WHT	GRN																																
Row 7 J200-7		7		15 Throne Room VUK		23 Witch Melted (Down)		31 Crystal BALL		39 TOTO		47 THERE'S NO PLACE LIKE HOME™		55 SKILL Target		63		71 Castle Loop		79 Monkey Home (In Castle)		87 Right Orbit Made		95 RAINBOW		103 Throne Room Rubber		111		119		127	
WHT	BLU																																
Row 8 J200-8		8		16 Right Orbit Enter		24 Left Orbit Enter		32 Crystal BALL		40 TOTO		48		56 Tin Man™		64 Left Orbit Made		72 Castle Ball Lock (Monkey)		80 Monkey Away (At Magnet)		88 Scarecrow™		96 RAINBOW		104 Cowardly Lion™		112		120		128	
WHT	VIO																																

 Opto Switches

Dedicated Switch Wiring Table

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70-Volt Coil Wiring Table

70V Power	Drive 1		Drive 2		Drive 3		Drive 4		Drive 5		Drive 6		Drive 7		Drive 8	
	J104-9, Q308		J104-8, Q307		J104-7, Q306		J104-6, Q305		J104-5, Q304		J104-4, Q303		J104-3, Q302		J104-2, Q301	
	BRN	BLK	BRN	GRY	BRN	RED	BRN	ORN	BRN	YEL	BRN	GRN	BRN	BLU	BRN	VIO
J104-1	Left Tree Bumper		Right Tree Bumper		Center Tree Bumper		State Fair Balloon Bumper		Winkie Guard VUK		Crystal Ball VUK					
BRN																
70V Power	Drive 9		Drive 10		Drive 11		Drive 12		Drive 13		Drive 14		Drive 15		Drive 16	
	J105-10, Q318		J105-8, Q317		J105-7, Q316		J105-6, Q315		J105-5, Q314		J105-4, Q313		J105-3, Q312		J105-2, Q311	
	RED	BLK	RED	BRN	RED	GRY	RED	ORN	RED	YEL	RED	GRN	RED	BLU	RED	VIO
J105-1	Left Flipper Power		Left Flipper Hold		Right Flipper Power		Right Flipper Hold		Upper Right Flipper Power		Upper Right Flipper Hold					
RED																
70V Power	Drive 17		Drive 18		Drive 19		Drive 20		Drive 21		Drive 22		Drive 23		Drive 24	
	J106-10, Q328		J106-9, Q327		J106-7, Q326		J106-6, Q325		J106-5, Q324		J106-4, Q323		J106-3, Q322		J106-2, Q321	
	ORN	BLK	ORN	BRN	ORN	RED	ORN	GRY	ORN	YEL	ORN	GRN	ORN	BLU	ORN	VIO
J106-1	Ball Diverter		Ramp Ball Lock		Throne Room VUK		Drop Target Reset (Up)		Ball Auto-Launch		5-Ball Trough VUK					
ORN																
70V Power	Drive 25		Drive 26		Drive 27		Drive 28		Drive 29		Drive 30		Drive 31		Drive 32	
	J107-10, Q338		J107-9, Q337		J107-8, Q336		J107-6, Q335		J107-5, Q334		J107-4, Q333		J107-3, Q332		J107-2, Q331	
	TAN	BLK	TAN	BRN	TAN	RED	TAN	ORN	TAN	YEL	TAN	GRN	TAN	BLU	TAN	VIO
J107-1	Witch Top Magnet		Witch Bottom Magnet		Top Lanes Magnet		Right Orbit Magnet		Monkey Magnet							
TAN																
70V Power	Drive 33		Drive 34		Drive 35		Drive 36		Drive 37		Drive 38		Drive 39		Drive 40	
	J108-10, Q408		J108-9, Q407		J108-8, Q406		J108-7, Q405		J108-5, Q404		J108-4, Q403		J108-3, Q402		J108-2, Q401	
	PNK	BLK	PNK	BRN	PNK	RED	PNK	ORN	PNK	YEL	PNK	GRN	PNK	BLU	PNK	VIO
J108-1	Castle Flipper Power		Castle Flipper Hold		Munchkinland Flipper Power		Munchkinland Flipper Hold				Left Slingshot		Right Slingshot		Top Lanes Slingshot	
PNK																

20-Volt Coil & Motor Wiring Table

[illegible]

12-Volt Motor, Relay & Light Wiring Table

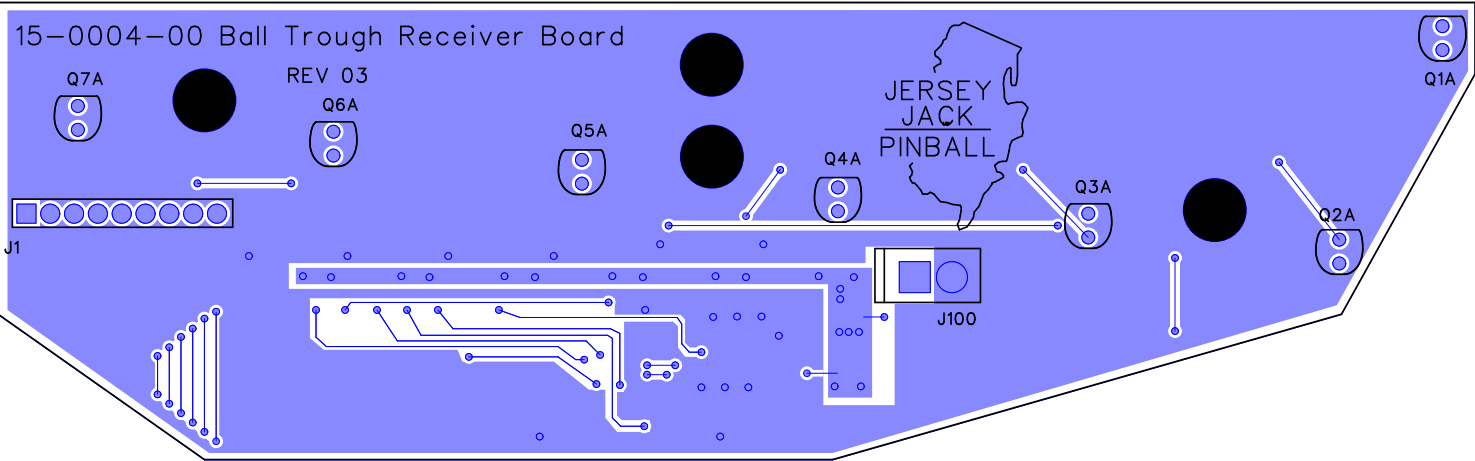
12V Power	Drive 41		Drive 42		Drive 43		Drive 44		Drive 45		Drive 46		Drive 47		Drive 48	
	J109-2, Q411		J109-3, Q412		J109-4, Q413		J109-6, Q414		J109-7, Q415		J109-8, Q416		J109-9, Q417		J109-10, Q418	
	YEL	BLK	YEL	BRN	YEL	RED	YEL	ORN	YEL	GRY	YEL	GRN	YEL	BLU	YEL	VIO
J109-1	House Motor		Shaker Motor		Monkey Motor		Monkey Motor Relay		Witch Stepper Motor 1		Witch Stepper Motor 2		Witch Stepper Motor 3		Witch Stepper Motor 4	
YEL																
12V Power	Drive 73		Drive 74		Drive 75		Drive 76		Drive 77		Drive 78		Drive 79		Drive 80	
	J113-3, Q511		J113-4, Q512		J113-5, Q513		J113-6, Q514		J113-7, Q515		J113-8, Q516		J113-9, Q517		J113-10, Q518	
	LT BLU	BLK	LT BLU	BRN	LT BLU	RED	LT BLU	ORN	LT BLU	YEL	LT BLU	GRN	LT BLU	GRY	LT BLU	VIO
J113-2	Oz Head Light		Topper Light				Spotlights (3 Total)		Witch LED, Right		Witch LED, Left		Start Button Light			
LT BLU																



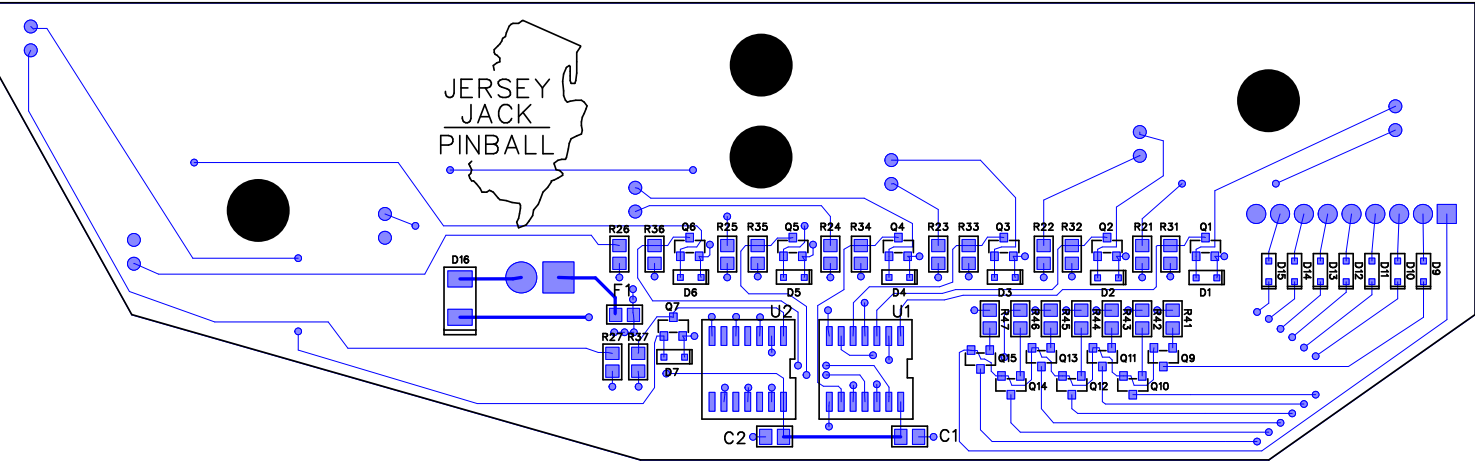
Section D

Reference Diagrams & Schematics



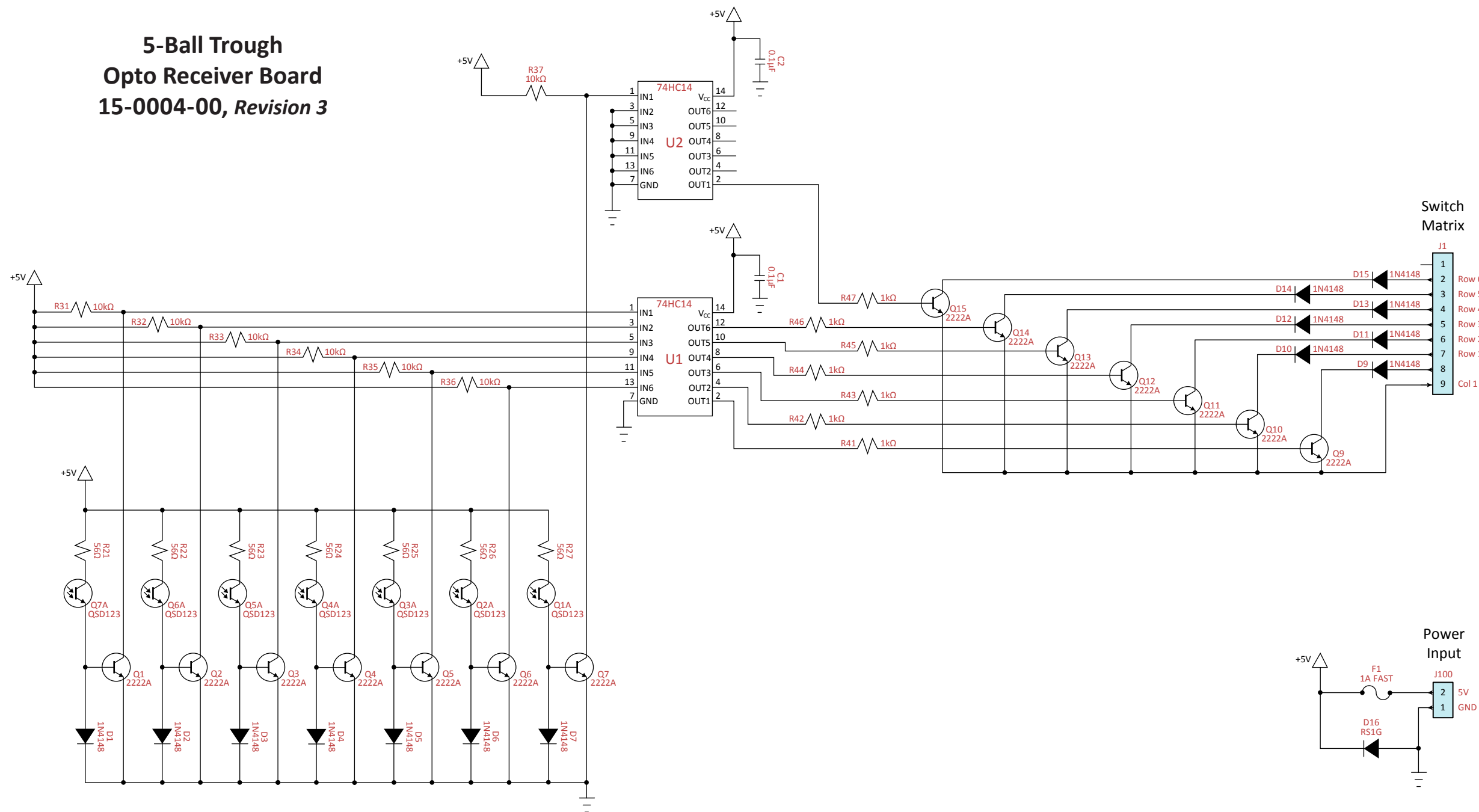


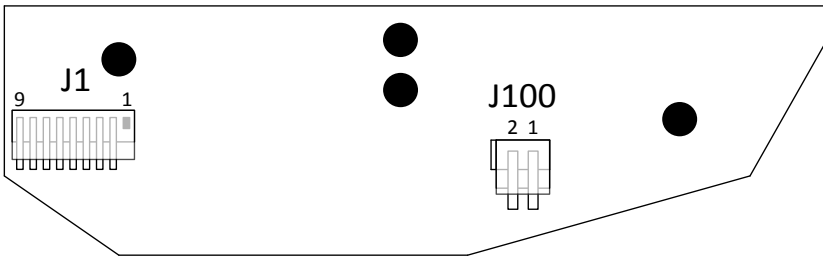
5-Ball Trough Opto Receiver Board
15-0004-00, Revision 3



Component(s)	Part Number	Description
C1, C2	100-104K-050	Capacitor, MLCC, 0805 SMT, 0.1μF, 50V, 10%
D1-D7, D9-D15	110-1000-0S	Diode, 1N4148, SMT, 75V, 300mA
D16	110-5001-0S	Diode, RS1G, SMT, 400V, 1A, 150ns
F1	170-3201-FS	Fuse, Fast, 0805 SMT, 1A, 32V
Q1-Q7, Q9-Q15	131-0000-0S	Transistor, 2222A, SOT-23 SMT, NPN
Q1A-Q7A	24-0003-0T	Phototransistor, IR, QSD123, 880nm, 5mm
R21-R27	120-0056-254	Resistor, 0805 SMT, 56Ω, 0.25W, 5%
R31-R37	120-10K0-254	Resistor, 0805 SMT, 10kΩ, 0.25W, 5%
R41-R47	120-1K00-254	Resistor, 0805 SMT, 1kΩ, 0.25W, 5%
U1, U2	141-0000-0S	Hex Inverters, Schmitt Trigger, 74HC14, SOT-108 SMT
J100	31-2500-02	Header, Male, 2-pin, Rt Angle, 3.96mm
J1	31-2501-09	Header, Male, 9-pin, Rt Angle, 2.54mm

5-Ball Trough
Opto Receiver Board
15-0004-00, Revision 3





5-Ball Trough Opto Receiver Board, 15-0004-00
Connector Pin-outs, *Revision 3*

J1 Matrixed Switches

J1-1	Key	
J1-2	WHT-GRN	Matrixed switches, Row 6 from I/O Board J200-6
J1-3	WHT-YEL	Matrixed switches, Row 5 from I/O Board J200-5
J1-4	WHT-ORN	Matrixed switches, Row 4 from I/O Board J200-4
J1-5	WHT-RED	Matrixed switches, Row 3 from I/O Board J200-3
J1-6	WHT-BRN	Matrixed switches, Row 2 from I/O Board J200-2
J1-7	WHT-BLK	Matrixed switches, Row 1 from I/O Board, J200-1
J1-8	Not Used	
J1-9	GRN-BLK	Matrixed switches, Column 1 from I/O Board, J201-1

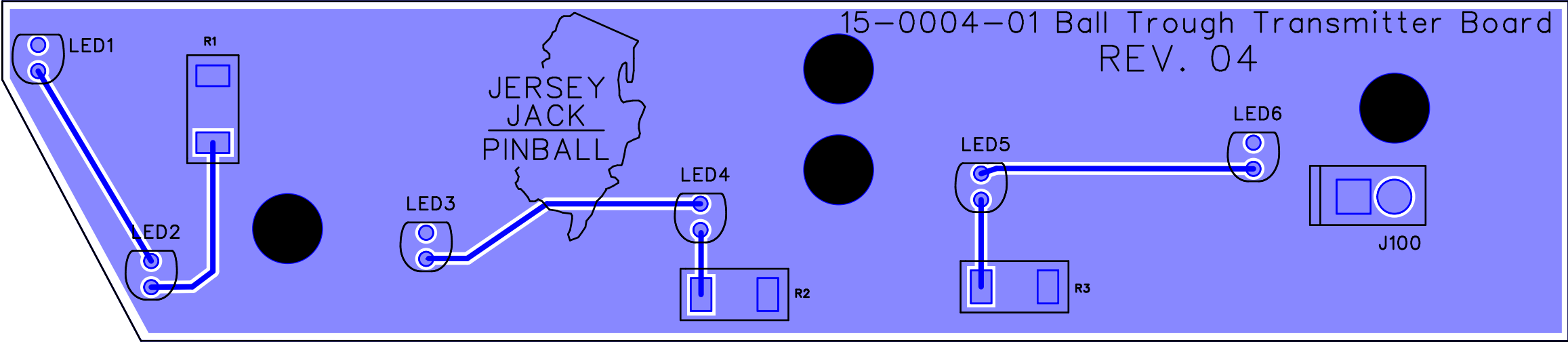
J100 Power Input

J100-1	BLK	Ground from ATX Power Supply or UPS Board, J9-2
J100-2	RED	+5VDC from ATX Power Supply or UPS Board, J9-4

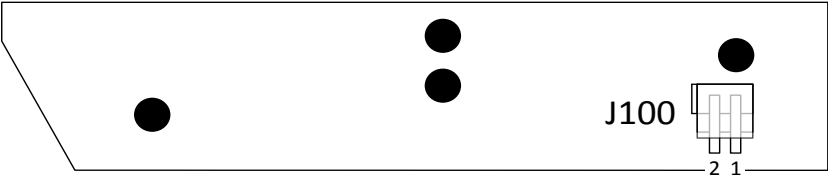
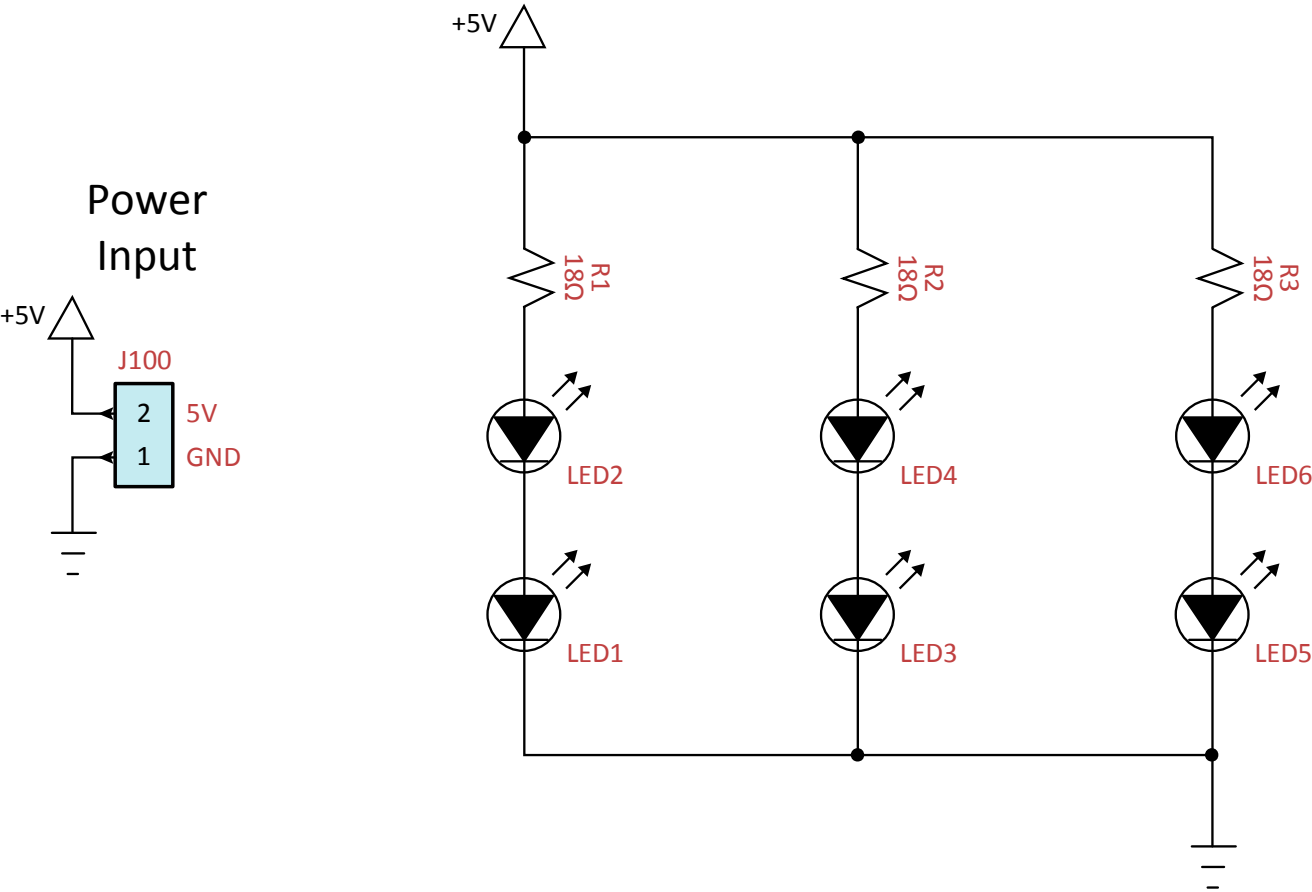
Note: All Trough Opto Receiver Board connections to J1 & J100 pass through an in-line connector mounted in back panel of Cabinet PCB Chassis Assembly.

5-Ball Trough Opto Transmitter Board
15-0004-01, Revision 4

Component(s)	Part Number	Description
LED1-LED6	24-0002-0T	LED, IR Emitting, QED123, 880nm, 5mm
R1-R3	123-0018-1H4	Resistor, 2512 SMT, 18Ω, 1W, 5%
J100	31-2500-02	Header, Male, 2-pin, Rt Angle, 3.96mm



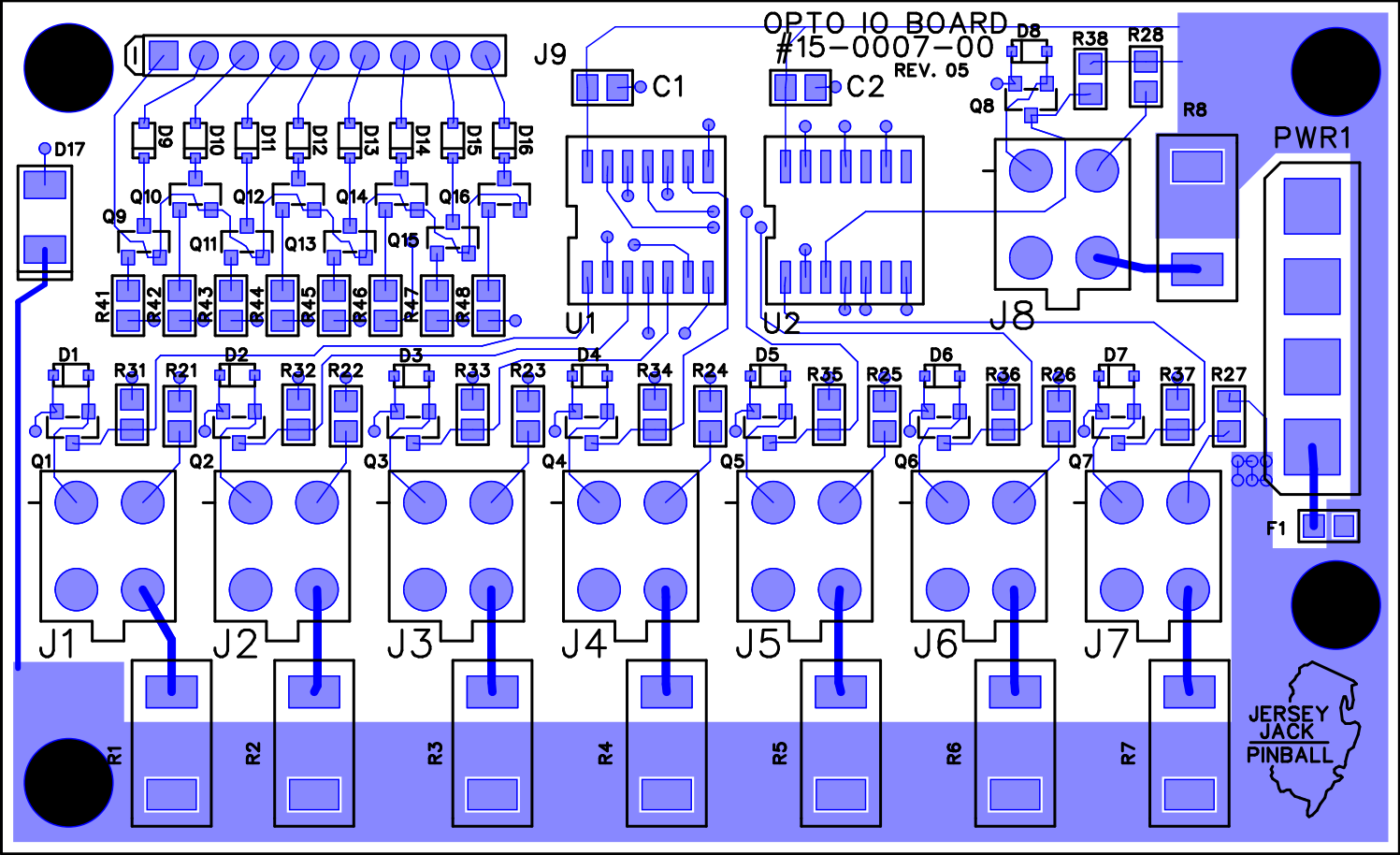
5-Ball Trough
Opto Transmitter Board
15-0004-01, Revision 4



5-Ball Trough Opto Transmitter Board
15-0004-01
Connector Pin-outs, Revision 4

J100 Power Input		
J100-1	BLK	Ground from ATX Power Supply or UPS Board, J9-2
J100-2	RED	+5VDC from ATX Power Supply or UPS Board, J9-4

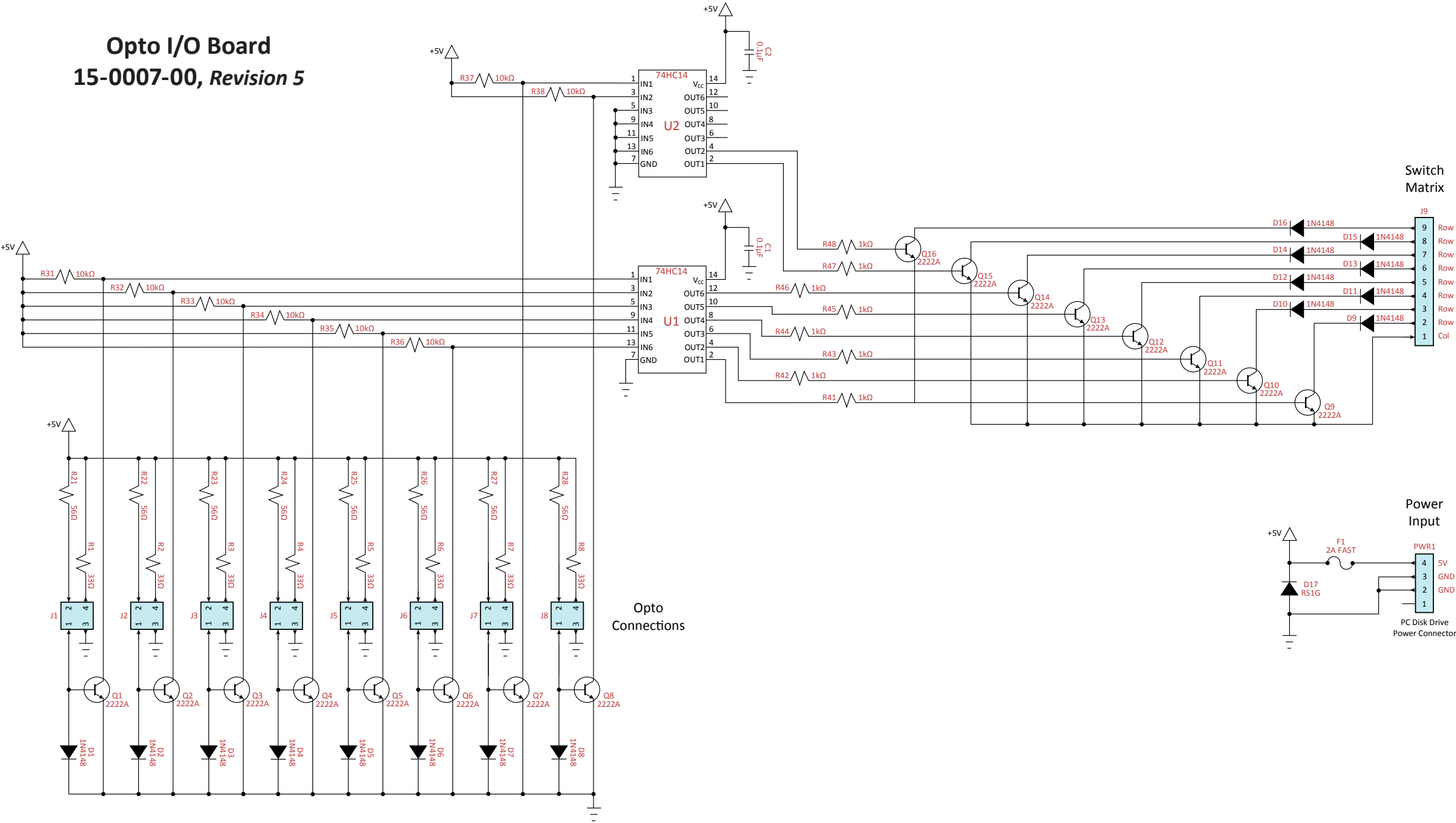
Note: All Trough Opto Transmitter Board connections to J100 pass through an in-line connector mounted in back panel of Cabinet PCB Chassis Assembly.

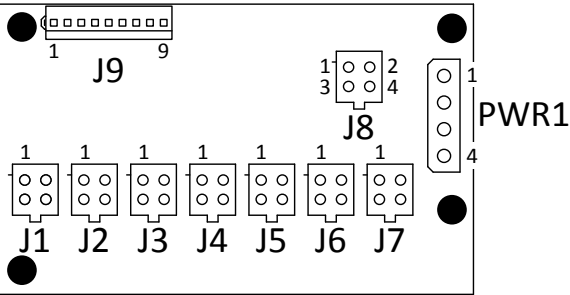


Opto I/O Board
15-0007-00, Revision 5

Component(s)	Part Number	Description
C1, C2	100-104K-050	Capacitor, MLCC, 0805 SMT, 0.1μF, 50V, 10%
D1-D16	110-1000-0S	Diode, 1N4148, SMT, 75V, 300mA
D17	110-5001-0S	Diode, RS1G, SMT, 400V, 1A, 150ns
F1	170-3202-FS	Fuse, Fast, 0805 SMT, 2A, 32V
Q1-Q16	131-0000-0S	Transistor, 2222A, SOT-23 SMT, NPN
R1-R8	123-0033-2HX	Resistor, 2512 SMT, 33Ω, 2W, 5%
R21-R28	120-0056-254	Resistor, 0805 SMT, 56Ω, 0.25W, 5%
R31-R38	120-10K0-334	Resistor, 0805 SMT, 10kΩ, 0.33W, 5%
R41-R48	120-1K00-334	Resistor, 0805 SMT, 1kΩ, 0.33W, 5%
U1, U2	141-0000-0S	Hex Inverters, Schmitt Trigger, 74HC14, SOT-108 SMT
PWR1	31-2502-04	Connector Header, Male, 4-pin, Power
J1-J8	31-2503-04	Connector Header, Male, 4-pin, 2 Rows, 4.2mm
J9	31-2504-09	Header, Male, 9-pin, 2.54mm





Opto I/O Board
15-0007-00, Revision 5









Left-side Opto I/O Board, 15-0007-00
Connector Pin-outs, *Revision 5*

J1 Opto #1 Connections

J1-1		GRN	RX of Winkie Guard VUK opto pair (“E” lead)
J1-2		WHT	RX of Winkie Guard VUK opto pair (“C” lead)
J1-3		BLK	TX of Winkie Guard VUK opto pair (“K” lead)
J1-4		RED	TX of Winkie Guard VUK opto pair (“A” lead)





J2 Opto #2 Connections

J2-1		GRN	RX of Castle Doors VUK opto pair (“E” lead)
J2-2		WHT	RX of Castle Doors VUK opto pair (“C” lead)
J2-3		BLK	TX of Castle Doors VUK opto pair (“K” lead)
J2-4		RED	TX of Castle Doors VUK opto pair (“A” lead)





J3 Opto #3 Connections

J3-1		Not Used	
J3-2		Not Used	
J3-3		Not Used	
J3-4		Not Used	





J4 Opto #4 Connections

J4-1		GRN	RX of Castle Exit (On Wire Ramp) opto pair (“E” lead)
J4-2		WHT	RX of Castle Exit (On Wire Ramp) opto pair (“C” lead)
J4-3		BLK	TX of Castle Exit (On Wire Ramp) opto pair (“K” lead)
J4-4		RED	TX of Castle Exit (On Wire Ramp) opto pair (“A” lead)





J5 Opto #5 Connections

J5-1		GRN	RX of Crystal Ball VUK opto pair (“E” lead)
J5-2		WHT	RX of Crystal Ball VUK opto pair (“C” lead)
J5-3		BLK	TX of Crystal Ball VUK opto pair (“K” lead)
J5-4		RED	TX of Crystal Ball VUK opto pair (“A” lead)





J6 Opto #6 Connections

J6-1		GRN	RX of Witch Home (Up) U-shaped opto
J6-2		WHT	RX of Witch Home (Up) U-shaped opto
J6-3		BLK	TX of Witch Home (Up) U-shaped opto
J6-4		RED	TX of Witch Home (Up) U-shaped opto

J7 Opto #7 Connections

J7-1		GRN	RX of Witch Melted (Down) U-shaped opto
J7-2		WHT	RX of Witch Melted (Down) U-shaped opto
J7-3		BLK	TX of Witch Melted (Down) U-shaped opto
J7-4		RED	TX of Witch Melted (Down) U-shaped opto

J8 Opto #8 Connections

J8-1		GRN	RX of Left Orbit Enter opto pair (“E” lead)
J8-2		WHT	RX of Left Orbit Enter opto pair (“C” lead)
J8-3		BLK	TX of Left Orbit Enter opto pair (“K” lead)
J8-4		RED	TX of Left Orbit Enter opto pair (“A” lead)

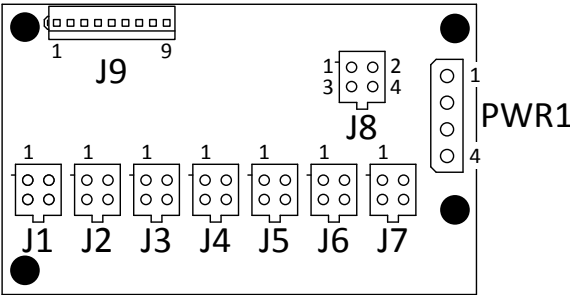
J9 Matrixed Switches

J9-1	GRN-RED	Matrixed switches, Column 3 from I/O Board, J201-3
J9-2	WHT-BLK	Matrixed switches, Row 1 from I/O Board, J200-1
J9-3	WHT-BRN	Matrixed switches, Row 2 from I/O Board, J200-2
J9-4	WHT-RED	Matrixed switches, Row 3 from I/O Board, J200-3
J9-5	WHT-ORN	Matrixed switches, Row 4 from I/O Board, J200-4
J9-6	WHT-YEL	Matrixed switches, Row 5 from I/O Board, J200-5
J9-7	WHT-GRN	Matrixed switches, Row 6 from I/O Board, J200-6
J9-8	WHT-BLU	Matrixed switches, Row 7 from I/O Board, J200-7
J9-9	WHT-VIO	Matrixed switches, Row 8 from I/O Board, J200-8

PWR1 Power Input

PWR1-1	RED	+5VDC from ATX Power Supply or UPS Board, J9-4
PWR1-2	BLK	Ground from ATX Power Supply or UPS Board, J9-2
PWR1-3	Not Used	
PWR1-4	Not Used	

Note: All Opto I/O Board connections to J9 & PWR1 pass through an in-line connector mounted in back panel of Cabinet PCB Chassis Assembly.



Right-side Opto I/O Board, 15-0007-00
Connector Pin-outs, *Revision 5*

J1 Opto #1 Connections

J1-1	GRN	RX of Ramp Lock #1 opto pair ("E" lead)
J1-2	WHT	RX of Ramp Lock #1 opto pair ("C" lead)
J1-3	BLK	TX of Ramp Lock #1 opto pair ("K" lead)
J1-4	RED	TX of Ramp Lock #1 opto pair ("A" lead)

J2 Opto #2 Connections

J2-1	GRN	RX of Ramp Lock #2 opto pair ("E" lead)
J2-2	WHT	RX of Ramp Lock #2 opto pair ("C" lead)
J2-3	BLK	TX of Ramp Lock #2 opto pair ("K" lead)
J2-4	RED	TX of Ramp Lock #2 opto pair ("A" lead)

J3 Opto #3 Connections

J3-1	GRN	RX of Ramp Lock #3 opto pair ("E" lead)
J3-2	WHT	RX of Ramp Lock #3 opto pair ("C" lead)
J3-3	BLK	TX of Ramp Lock #3 opto pair ("K" lead)
J3-4	RED	TX of Ramp Lock #3 opto pair ("A" lead)

J4 Opto #4 Connections

J4-1	GRN	RX of Spinning House Home U-shaped opto
J4-2	WHT	RX of Spinning House Home U-shaped opto
J4-3	BLK	TX of Spinning House Home U-shaped opto
J4-4	RED	TX of Spinning House Home U-shaped opto

J5 Opto #5 Connections

J5-1	GRN	RX of Spinning House Step Notch U-shaped opto
J5-2	WHT	RX of Spinning House Step Notch U-shaped opto
J5-3	BLK	TX of Spinning House Step Notch U-shaped opto
J5-4	RED	TX of Spinning House Step Notch U-shaped opto

J6 Opto #6 Connections

J6-1	Not Used
J6-2	Not Used
J6-3	Not Used
J6-4	Not Used

J7 Opto #7 Connections

J7-1	GRN	RX of Throne Room VUK opto pair ("E" lead)
J7-2	WHT	RX of Throne Room VUK opto pair ("C" lead)
J7-3	BLK	TX of Throne Room VUK opto pair ("K" lead)
J7-4	RED	TX of Throne Room VUK opto pair ("A" lead)

J8 Opto #8 Connections

J8-1	GRN	RX of Right Orbit Enter opto pair ("E" lead)
J8-2	WHT	RX of Right Orbit Enter opto pair ("C" lead)
J8-3	BLK	TX of Right Orbit Enter opto pair ("K" lead)
J8-4	RED	TX of Right Orbit Enter opto pair ("A" lead)

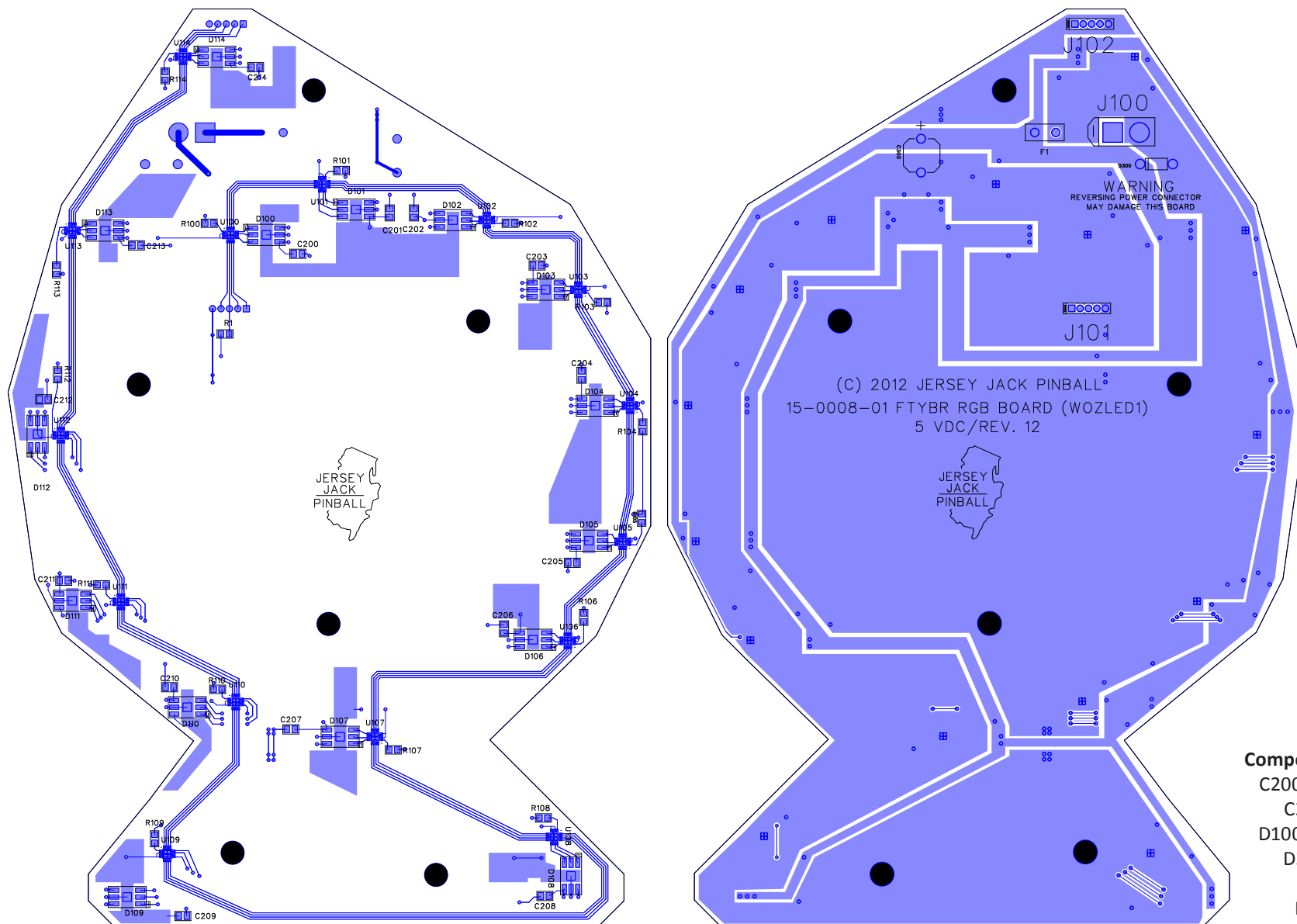
J9 Matrixed Switches

J9-1	GRN-BRN	Matrixed switches, Column 2 from I/O Board, J201-2
J9-2	WHT-BLK	Matrixed switches, Row 1 from I/O Board, J200-1
J9-3	WHT-BRN	Matrixed switches, Row 2 from I/O Board, J200-2
J9-4	WHT-RED	Matrixed switches, Row 3 from I/O Board, J200-3
J9-5	WHT-ORN	Matrixed switches, Row 4 from I/O Board, J200-4
J9-6	WHT-YEL	Matrixed switches, Row 5 from I/O Board, J200-5
J9-7	WHT-GRN	Matrixed switches, Row 6 from I/O Board, J200-6
J9-8	WHT-BLU	Matrixed switches, Row 7 from I/O Board, J200-7
J9-9	WHT-VIO	Matrixed switches, Row 8 from I/O Board, J200-8

PWR1 Power Input

PWR1-1	RED	+5VDC from ATX Power Supply or UPS Board, J8-4
PWR1-2	BLK	Ground from ATX Power Supply or UPS Board, J8-2
PWR1-3	Not Used	
PWR1-4	Not Used	

Note: All Opto I/O Board connections to J9 & PWR1 pass through an in-line connector mounted in back panel of Cabinet PCB Chassis Assembly.

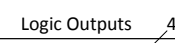


WOZ FTYBR RGB LED Board (WOZLED1)

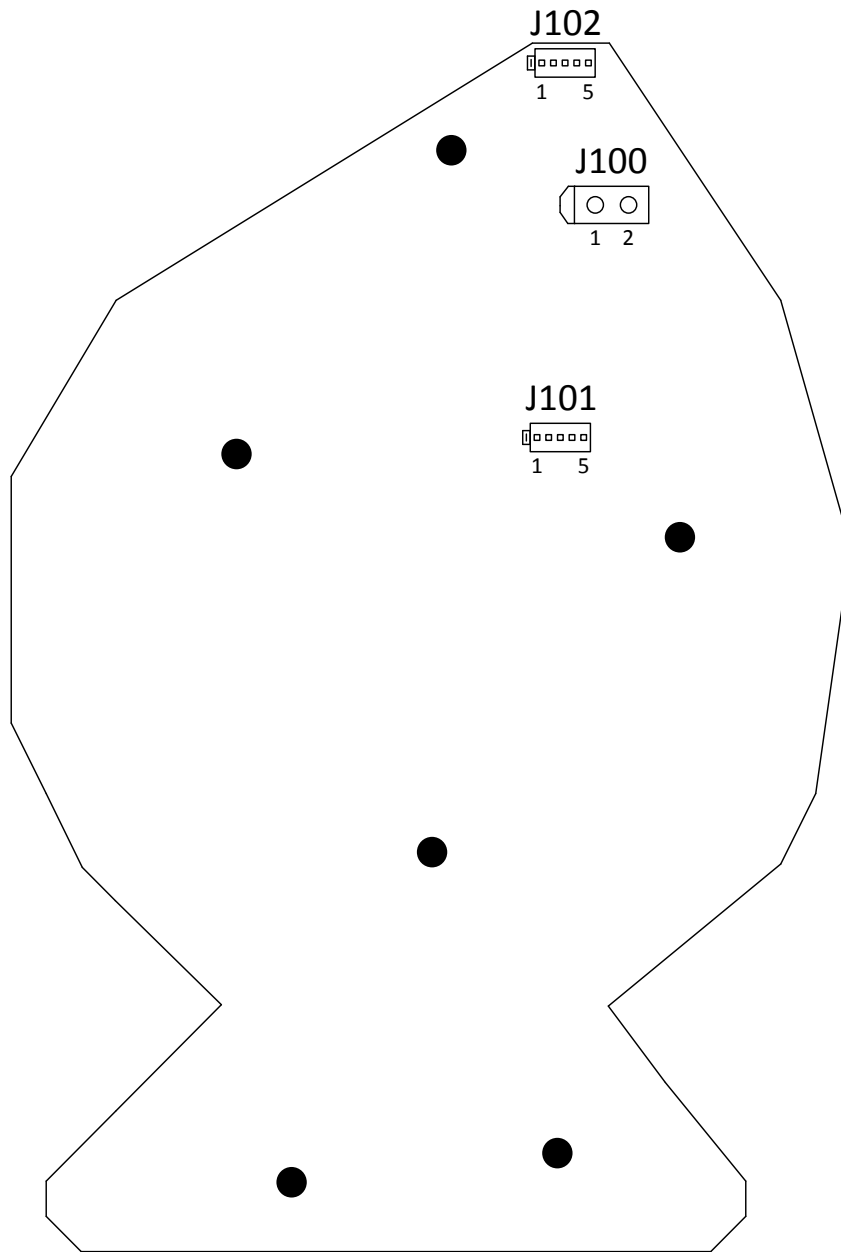
15-0008-01, Revision 12

(games manufactured before Sep 4, 2013)

Component(s)	Part Number	Description
C200-C214	100-106M-016	Capacitor, MLCC, 0805 SMT, 10μF, 16V, 20%
C300	109-2K2M-016	Capacitor, Elect (Radial), 2200μF, 16V, 20%
D100-D114	24-0004-00	LED, SMT, High-Power RGB, 624/525/450nm
D300	110-5001-0S	Diode, RS1G, SMT, 400V, 1A, 150ns
F1	170-0332-ST	Fuse, Slow, Radial, Leaded, 3.15A, 300V
R1	120-04K7-334	Resistor, 0805 SMT, 4.7kΩ, 0.33W, 5%
R100-R114	120-06K8-334	Resistor, 0805 SMT, 6.8kΩ, 0.33W, 5%
U100-U114	140-0001-0S	3-Ch Const Current LED Drvr, A6281, 16-QFN
J100	30-2005-00	Header, Male, 2-pin, 6.35mm
J101, J102	30-2001-00	Header, Male, 5-pin, 2mm



The schematic diagram illustrates the internal circuitry of the LED Board (Rev 12). It features six identical LED channels, each driven by an A6281 LED driver (U108 to U114). Each channel is powered by a +5V supply through a 6.8kΩ resistor (R108 to R114) and a 10μF capacitor (C208 to C214). The driver's output (OUT0) is connected to the anode of the LED (A1, A2, A3) through a 3.15A SLOW fuse (F1). The cathode of the LED is connected to ground (GND) through a 2200μF 16V capacitor (C300) and a 5V regulator (D300). The board also includes a common power supply section (J100) and a common ground connection (J102).



WOZ FTYBR RGB LED Board (WOZLED1), 15-0008-01

Connector Pin-outs, *Revision 12*

J100 Power Input

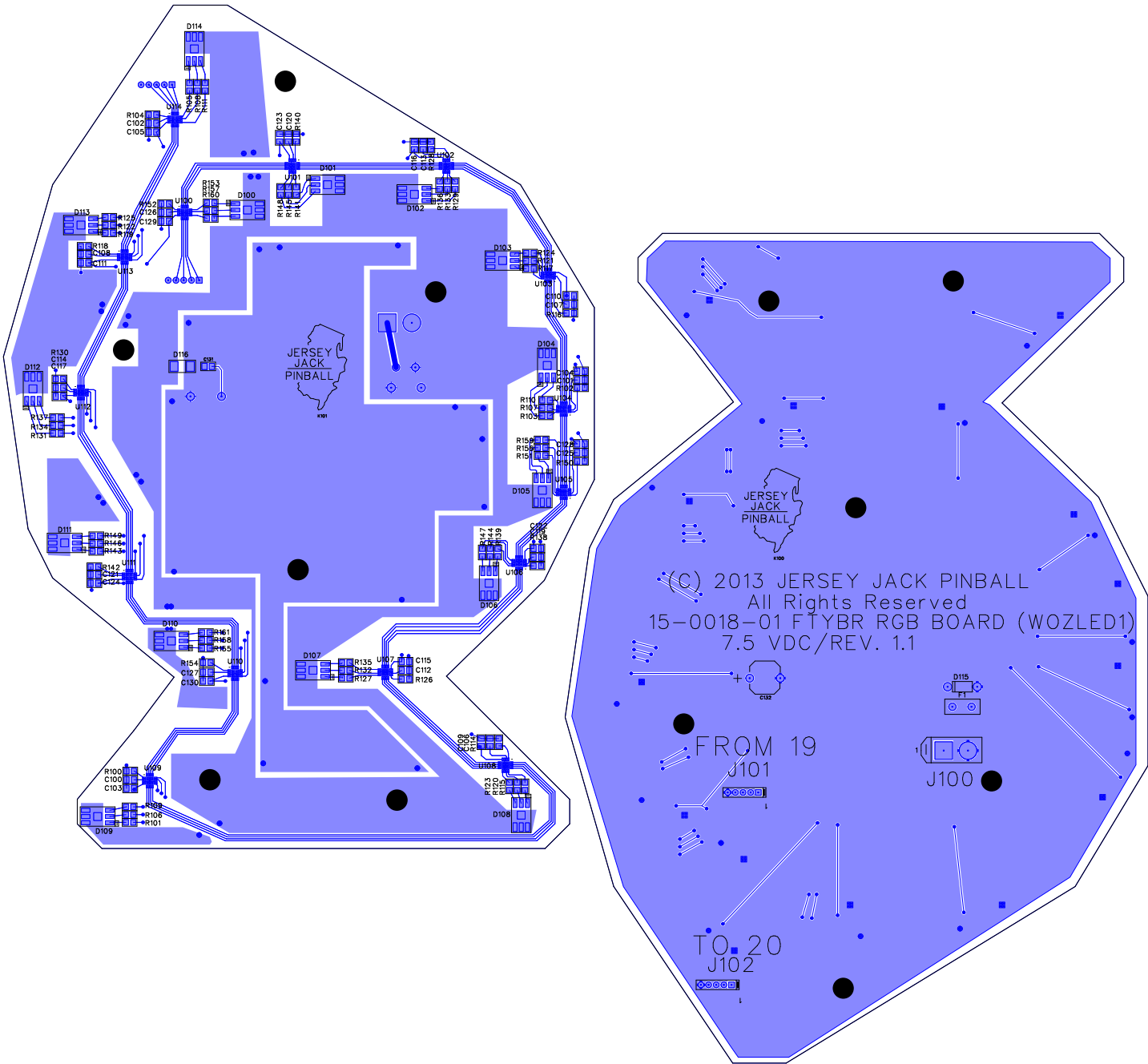
J100-1	VIO	+5VDC from 5VDC Power Supply
J100-2	BLK	Ground from 5VDC Power Supply

J101 RGB LED Control

J101-1	BLU	->
J101-2	WHT	-> Control signals from previous RGB LED board,
J101-3	BLU-WHT	-> WOZ Single GI RGB LED Board #19, J102
J101-4	WHT-BLU	->
J101-5	BLK	Ground (cable shield)

J102 RGB LED Control

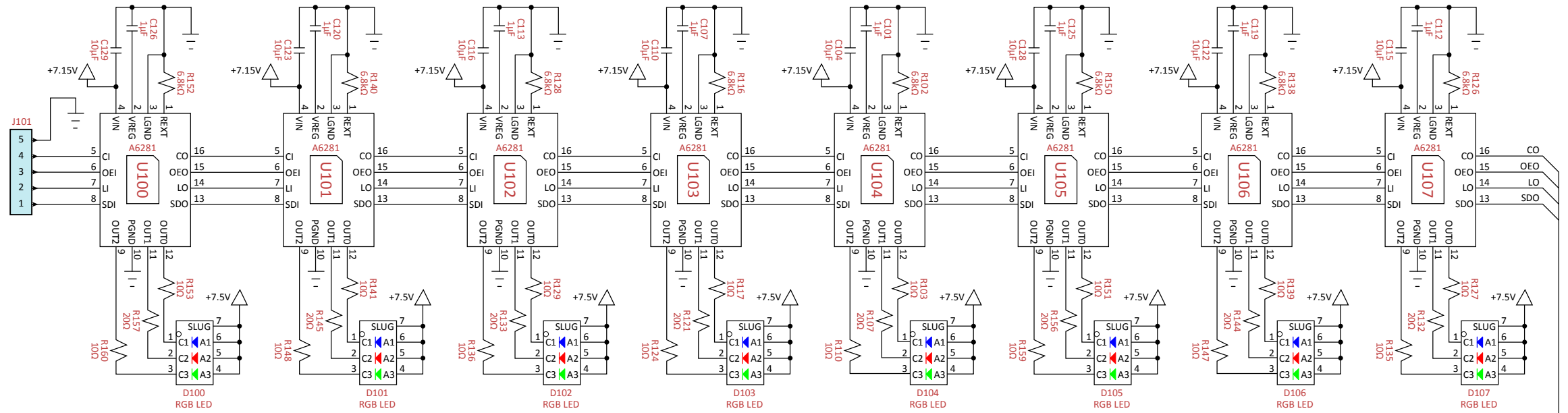
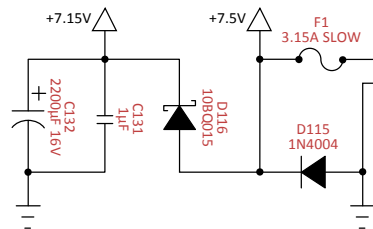
J102-1	BLU	->
J102-2	WHT	-> Control signals to next RGB LED board,
J102-3	BLU-WHT	-> WOZ Single GI RGB LED Board #20, J101
J102-4	WHT-BLU	->
J102-5	BLK	Ground (cable shield)



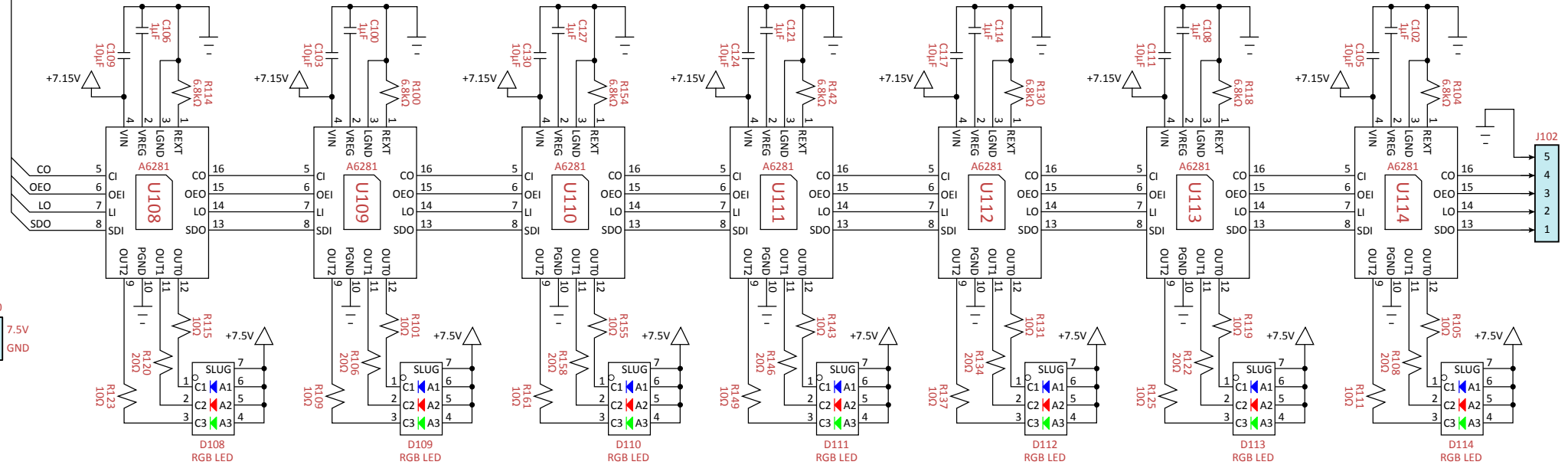
WOZ FTYBR RGB LED Board (WOZLED1)
15-0018-01, Revision 1.1
(games manufactured on/after Sep 4, 2013)

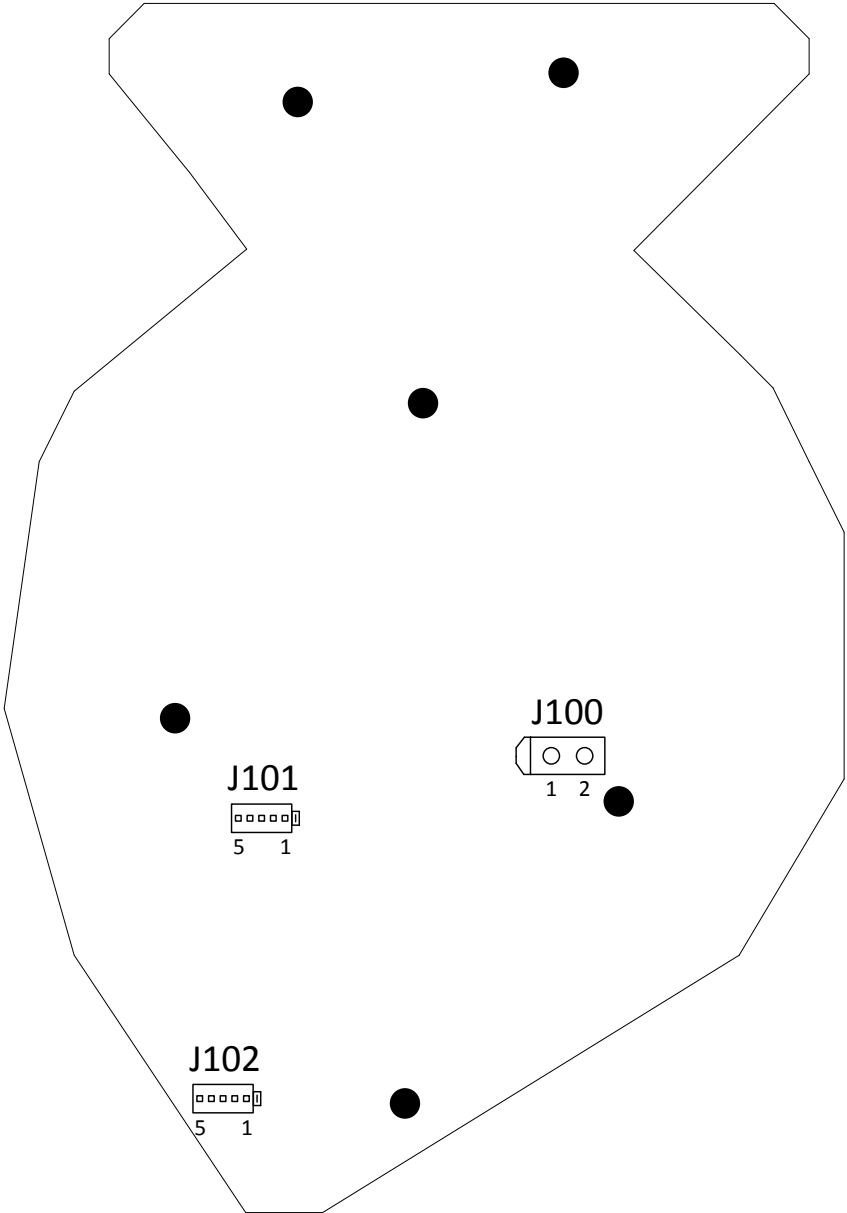
Component(s)	Part Number	Description
C100-C102, C106-C108, C112-C114, C119-C121, C125-C127, C131	100-105K-016	Capacitor, MLCC, 0805 SMT, 1μF, 16V, 10%
C103-C105, C109-C111, C115-C117, C122-C124, C128-C130	100-106M-016	Capacitor, MLCC, 0805 SMT, 10μF, 16V, 20%
C132	109-2K2M-016	Capacitor, Elect (Radial), 2200μF, 16V, 20%
D100-D114	24-0004-00	LED, SMT, High-Power RGB, 624/525/450nm
D115	110-0002-0T	Diode, 1N4004, 400V, 1A
D116	110-0004-0S	Diode, 10BQ015, SMT, Schottky Rectifier, 1A
F1	170-0332-ST	Fuse, Slow, Radial, Leaded, 3.15A, 300V
R100, R102, R104, R114, R116, R118, R126, R128, R130, R138, R140, R142, R150, R152, R154	120-06K8-334	Resistor, 0805 SMT, 6.8kΩ, 0.33W, 5%
R101, R103, R105, R109-R111, R115, R117, R119, R123-R125, R127, R129, R131, R135-R137, R139, R141, R143, R147-R149, R151, R153, R155, R159-R161	120-0010-254	Resistor, 0805 SMT, 10Ω, 0.25W, 5%
R106-R108, R120-R122, R132-R134, R144-R146, R156-R158	120-0020-254	Resistor, 0805 SMT, 20Ω, 0.25W, 5%
U100-U114	140-0001-0S	3-Ch Const Current LED Drvr, A6281, 16-QFN
J100	30-2005-00	Header, Male, 2-pin, 6.35mm
J101, J102	30-2001-00	Header, Male, 5-pin, 2mm

WOZ FTYBR **RGB LED Board** **(WOZLED1)** **15-0018-01** *Revision 1.1*



Logic Outputs 4





WOZ FTYBR RGB LED Board (WOZLED1), 15-0018-01
Connector Pin-outs, *Revision 1.1*

J100 Power Input

J100-1	VIO	+7.5VDC from 7.5VDC Power Supply or UPS Board, J4-2
J100-2	BLK	Ground from 7.5VDC Power Supply or UPS Board, J4-5

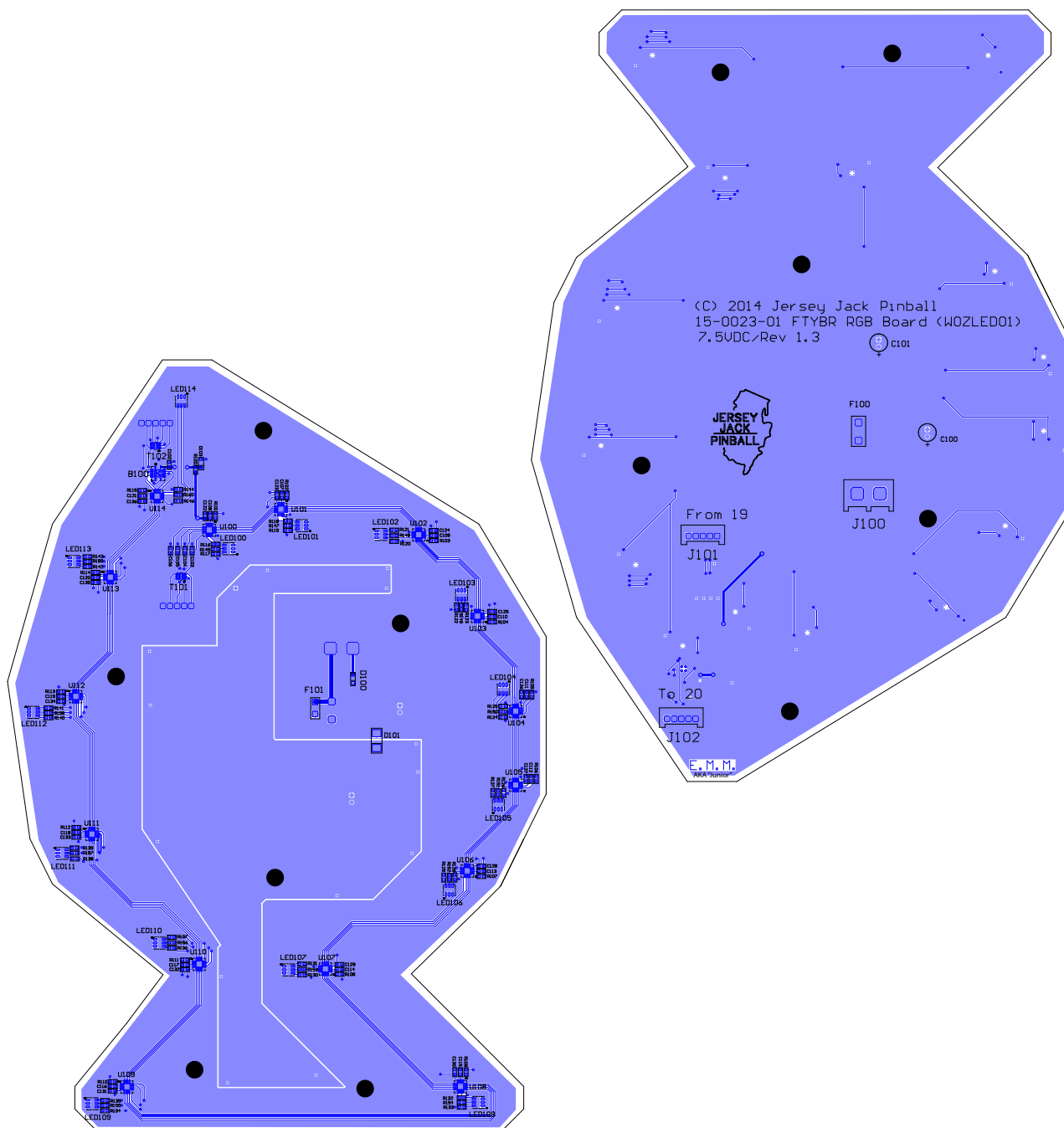
J101 RGB LED Control

J101-1	BLU	->
J101-2	WHT	-> Control signals from previous RGB LED board,
J101-3	BLU-WHT	-> WOZ Single GI RGB LED Board #19, J102
J101-4	WHT-BLU	->
J101-5	BLK	Ground (cable shield)

J102 RGB LED Control

J102-1	BLU	->
J102-2	WHT	-> Control signals to next RGB LED board,
J102-3	BLU-WHT	-> WOZ Single GI RGB LED Board #20, J101
J102-4	WHT-BLU	->
J102-5	BLK	Ground (cable shield)

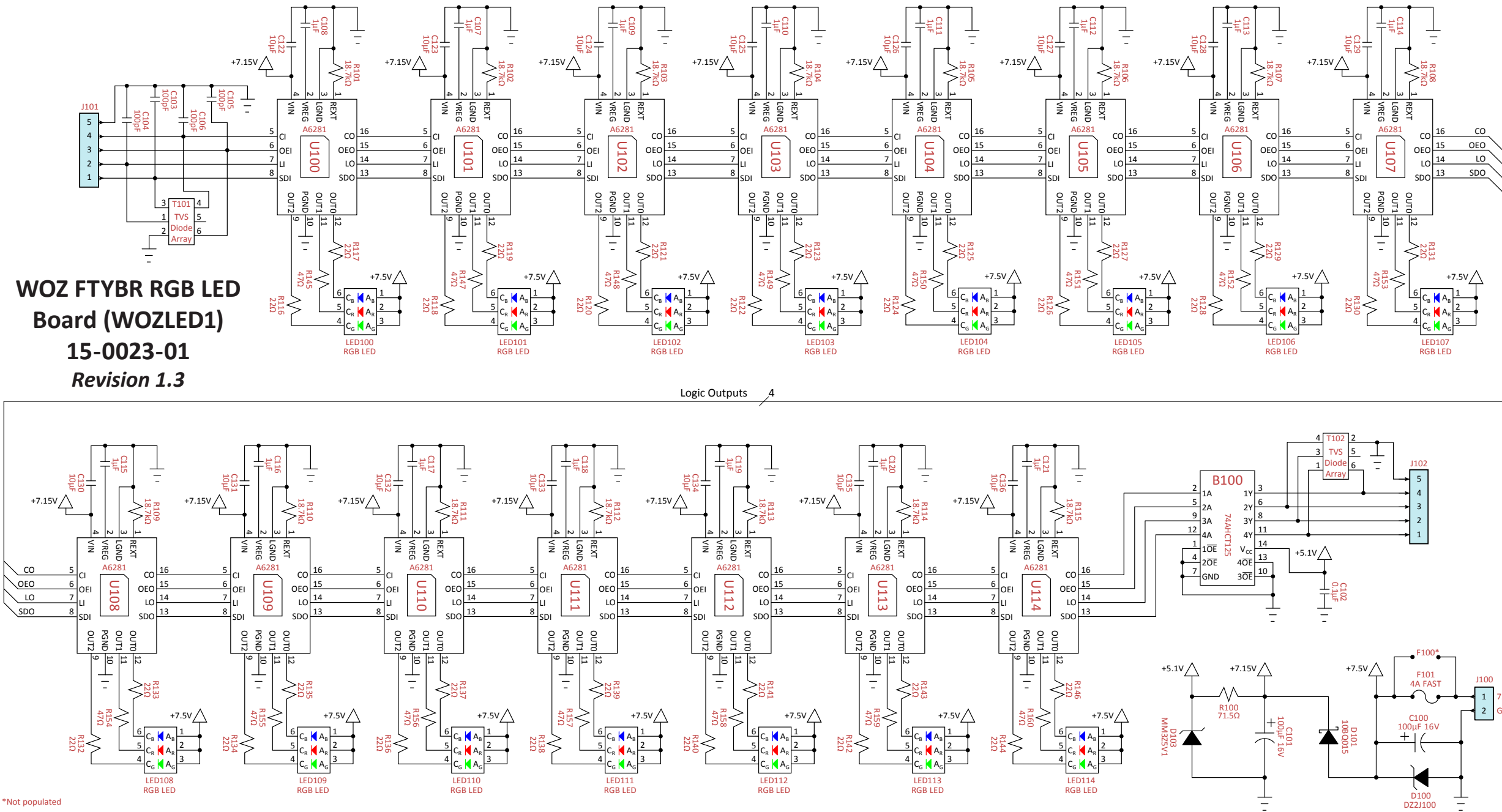
Note: All RGB LED Board connections to J100 pass through an in-line connector mounted in back panel of Cabinet PCB Chassis Assembly.



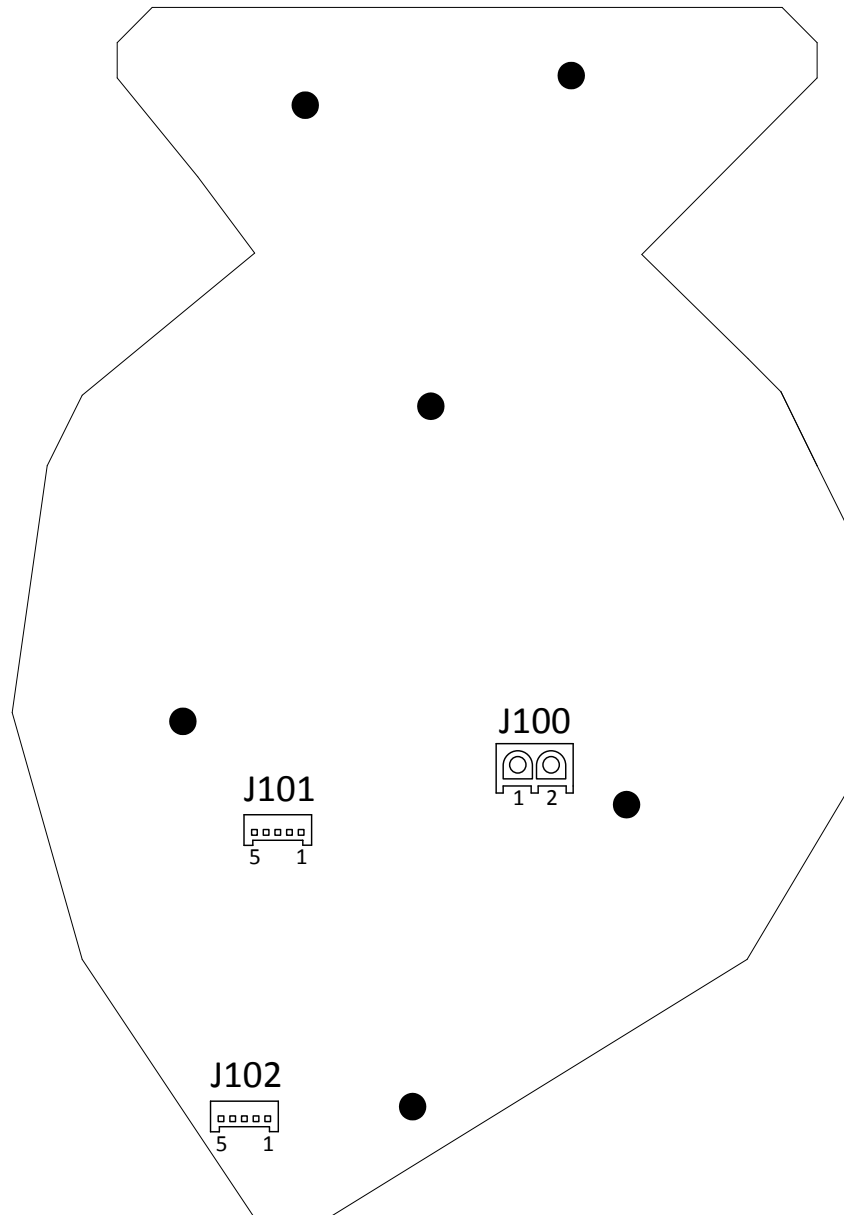
WOZ FTYBR RGB LED Board (WOZLED1) 15-0023-01, Revision 1.3

Component(s)	Part Number	Description
B100	141-0019-0S	Quad Bus Buffer Gates w/3-State Outputs, 74AHCT125, QFN-14 SMT
C100, C101	109-100M-016	Capacitor, Elect (Radial), 100μF, 16V, 20%
C102	103-104K-016	Capacitor, MLCC, 0603 SMT, 0.1μF, 16V, 10%
C103-C106	103-101J-050	Capacitor, MLCC, 0603 SMT, 100pF, 50V, 5%
C107-C121	103-105Z-016	Capacitor, MLCC, 0603 SMT, 1μF, 16V, +80%, -20%
C122-C136	100-106K-00	Capacitor, MLCC, 0805 SMT, 10μF, 16V, 10%
D100	110-0009-0S	Diode, DZ2J100, SMT, Zener, 10V, 200mW
D101	110-0004-0S	Diode, 10BQ015, SMT, Schottky Rectifier, 1A
D103	110-0010-0S	Diode, MM3Z5V1T1, SMT, Zener, 5.1V, 200mW
F100		Not Populated
F101	170-3204-FS	Fuse, Fast, 1206 SMT, 4A, 32V
LED100-LED114	24-0016-00	LED, SMT, High-Power RGB, 624/527/470nm
R100	122-71P5-102	Resistor, 0603 SMT, 71.5Ω, 0.1W, 1%
R101-R115	122-18K7-102	Resistor, 0603 SMT, 18.7kΩ, 0.1W, 1%
R116-R144, R146	122-0022-104	Resistor, 0603 SMT, 22Ω, 0.1W, 5%
R145, R147-R160	122-0047-104	Resistor, 0603 SMT, 47Ω, 0.1W, 5%
T101, T102	141-0017-0S	RailClamp TVS Diode Array, RClamp0504F, SC70-6L SMT
U100-U114	140-0001-0S	3-Ch Const Current LED Drvr, A6281, 16-QFN
J100	30-2005-00	Header, Male, 2-pin, 6.35mm
J101, J102	30-2001-00	Header, Male, 5-pin, 2mm

**WOZ FTYBR RGB LED
Board (WOZLED1)**
15-0023-01
Revision 1.3



*Not populated



WOZ FTYBR RGB LED Board (WOZLED1), 15-0023-01

Connector Pin-outs, *Revision 1.3*

J100 Power Input

J100-1	VIO	+7.5VDC from 7.5VDC Power Supply or UPS Board, J4-2
J100-2	BLK	Ground from 7.5VDC Power Supply or UPS Board, J4-5

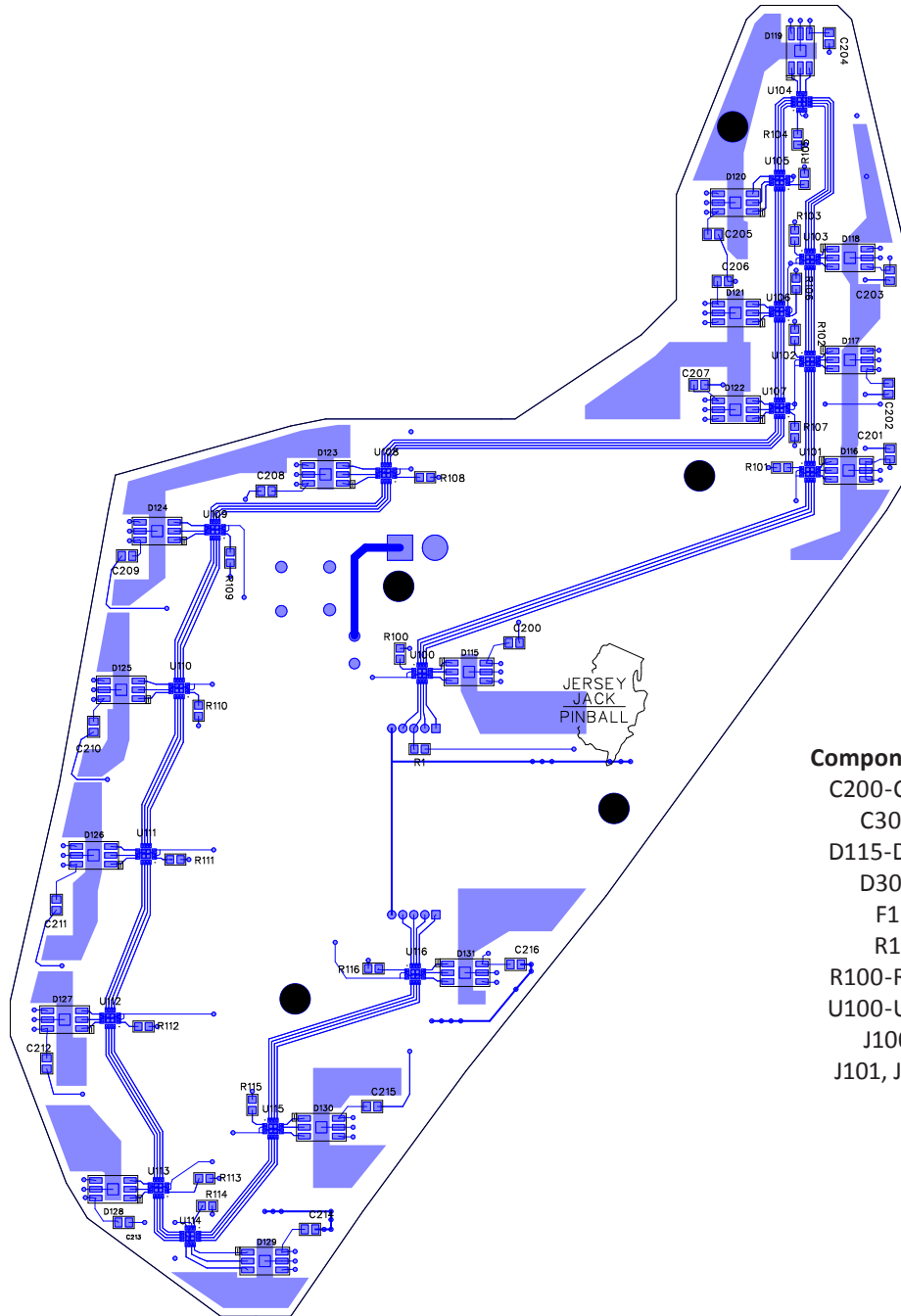
J101 RGB LED Control

J101-1	BLU	->
J101-2	WHT	-> Control signals from previous RGB LED board,
J101-3	BLU-WHT	-> WOZ Single GI RGB LED Board #19, J102
J101-4	WHT-BLU	->
J101-5	BLK	Ground (cable shield)

J102 RGB LED Control

J102-1	BLU	->
J102-2	WHT	-> Control signals to next RGB LED board,
J102-3	BLU-WHT	-> WOZ Single GI RGB LED Board #20, J101
J102-4	WHT-BLU	->
J102-5	BLK	Ground (cable shield)

Note: All RGB LED Board connections to J100 pass through an in-line connector mounted in back panel of Cabinet PCB Chassis Assembly.

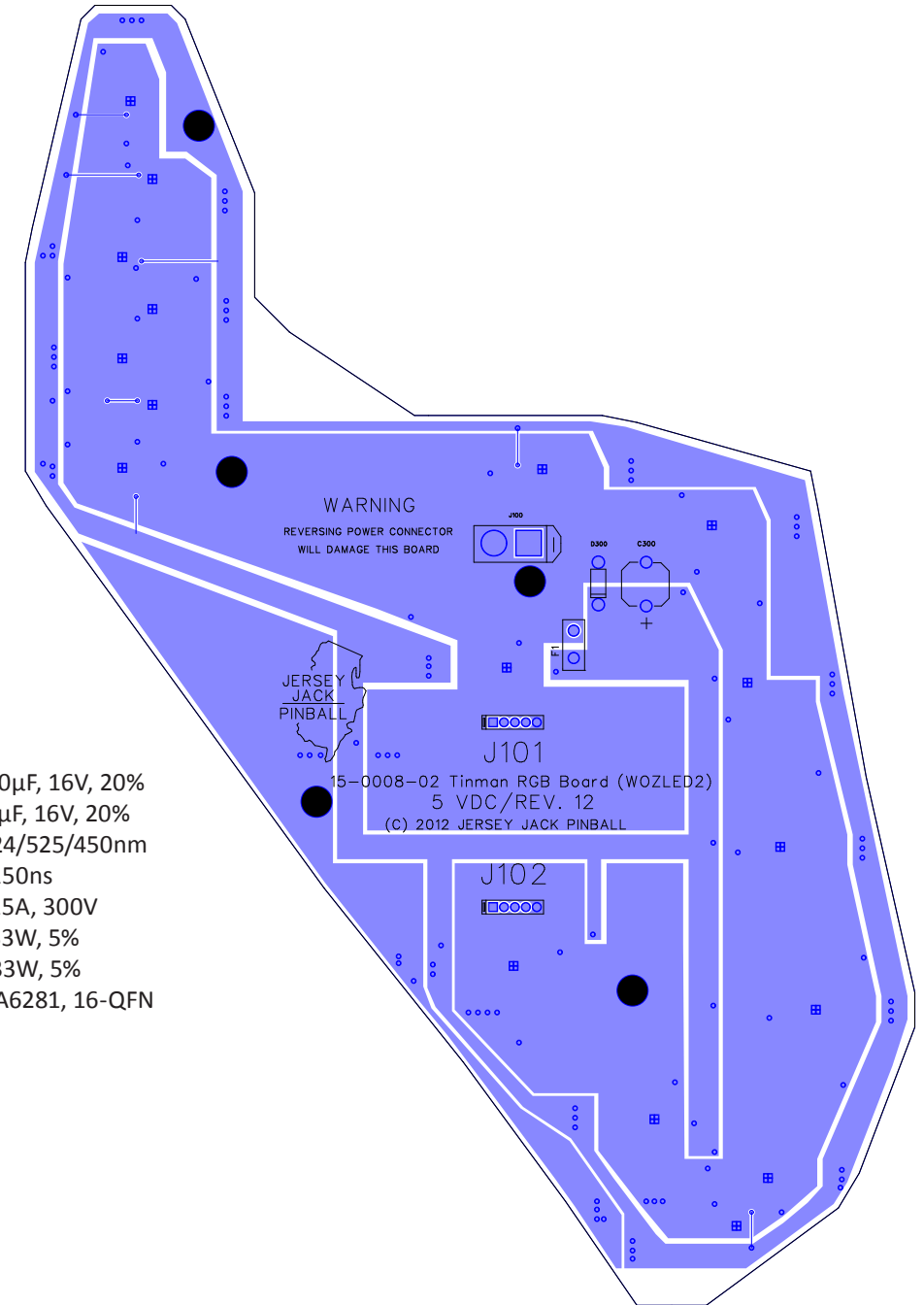


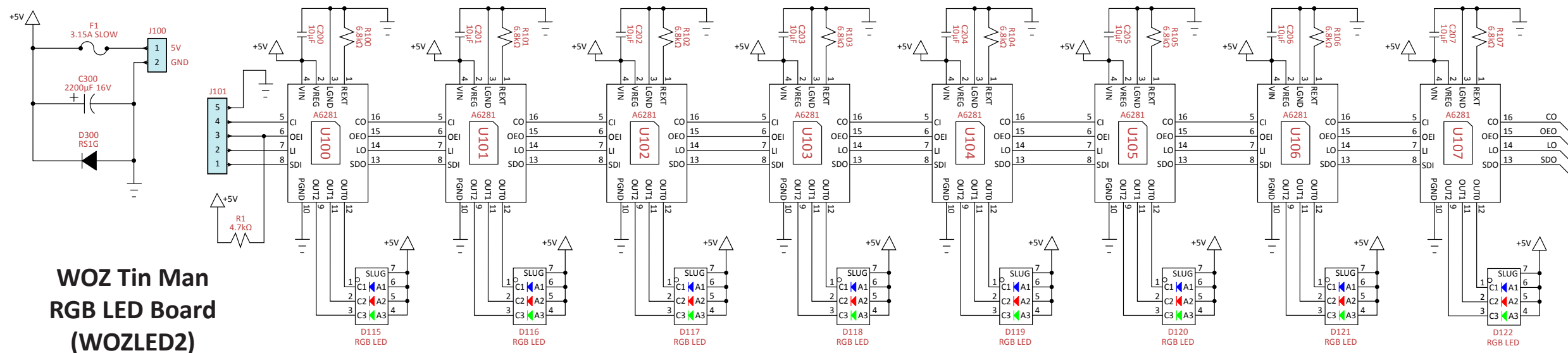
WOZ Tin Man RGB LED Board (WOZLED2)

15-0008-02, Revision 12

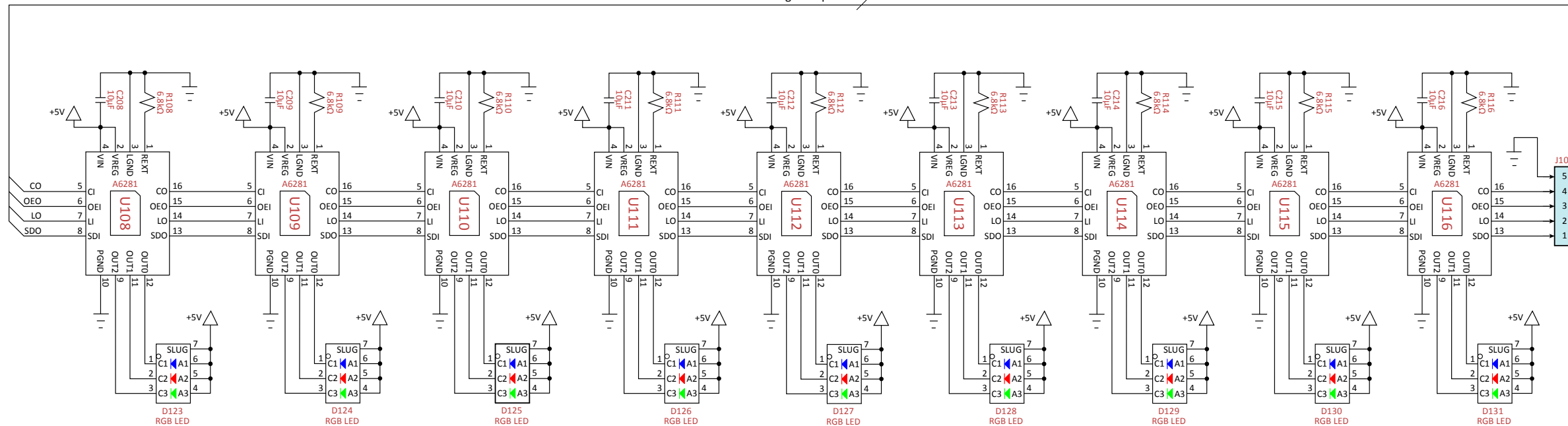
(games manufactured before Sep 4, 2013)

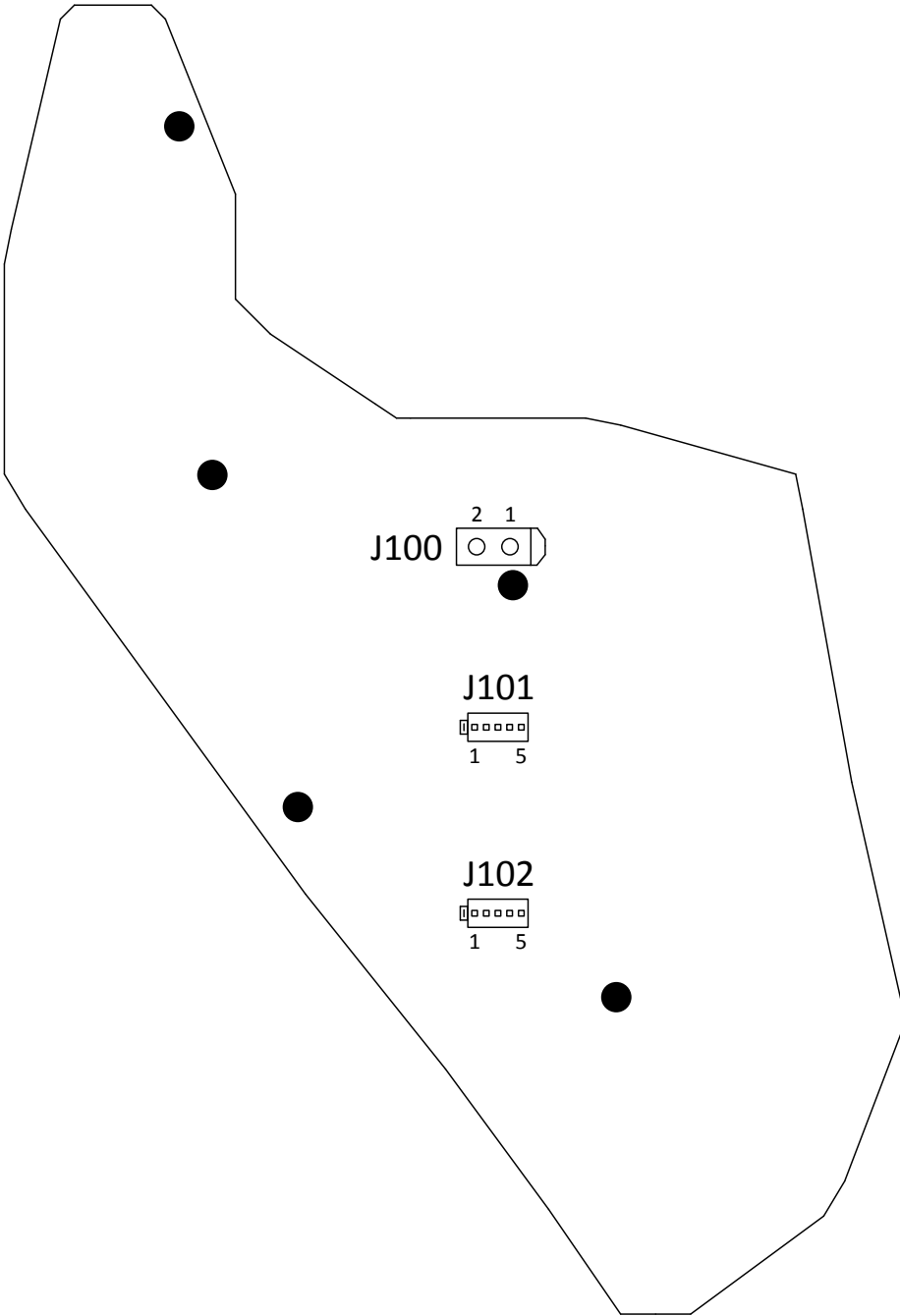
Component(s)	Part Number	Description
C200-C216	100-106M-016	Capacitor, MLCC, 0805 SMT, 10μF, 16V, 20%
C300	109-2K2M-016	Capacitor, Elect (Radial), 2200μF, 16V, 20%
D115-D131	24-0004-00	LED, SMT, High-Power RGB, 624/525/450nm
D300	110-5001-0S	Diode, RS1G, SMT, 400V, 1A, 150ns
F1	170-0332-ST	Fuse, Slow, Radial, Leaded, 3.15A, 300V
R1	120-04K7-334	Resistor, 0805 SMT, 4.7kΩ, 0.33W, 5%
R100-R116	120-06K8-334	Resistor, 0805 SMT, 6.8kΩ, 0.33W, 5%
U100-U116	140-0001-0S	3-Ch Const Current LED Drvr, A6281, 16-QFN
J100	30-2005-00	Header, Male, 2-pin, 6.35mm
J101, J102	30-2001-00	Header, Male, 5-pin, 2mm





Logic Outputs 4





WOZ Tin Man RGB LED Board (WOZLED2), 15-0008-02
Connector Pin-outs, *Revision 12*

J100 Power Input

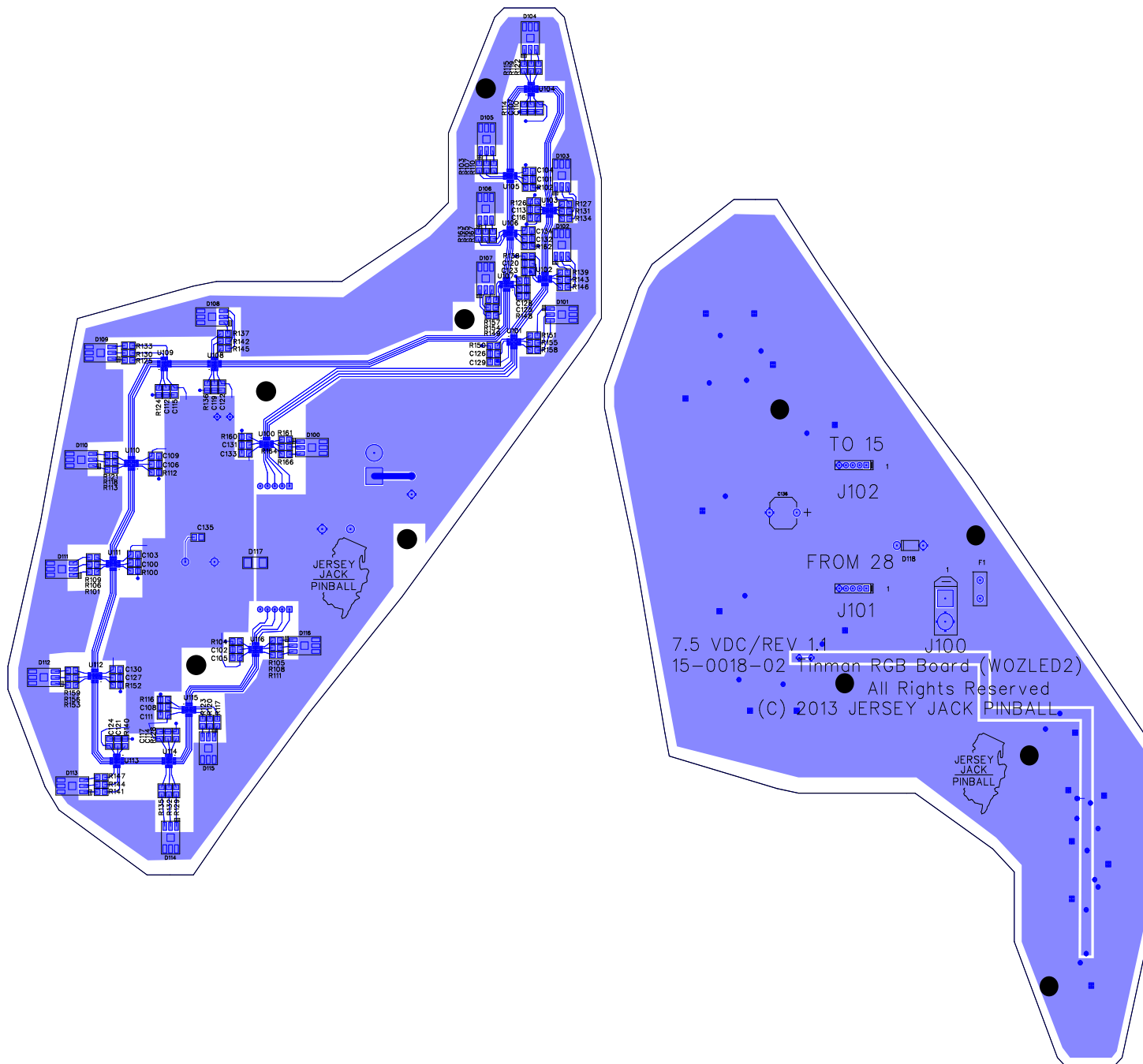
J100-1	VIO	+5VDC from 5VDC Power Supply
J100-2	BLK	Ground from 5VDC Power Supply

J101 RGB LED Control

J101-1	BLU	->
J101-2	WHT	-> Control signals from previous RGB LED board,
J101-3	BLU-WHT	-> WOZ Single GI RGB LED Board #28, J102
J101-4	WHT-BLU	->
J101-5	BLK	Ground (cable shield)

J102 RGB LED Control

J102-1	BLU	->
J102-2	WHT	-> Control signals to next RGB LED board,
J102-3	BLU-WHT	-> WOZ Single GI RGB LED Board #15, J101
J102-4	WHT-BLU	->
J102-5	BLK	Ground (cable shield)

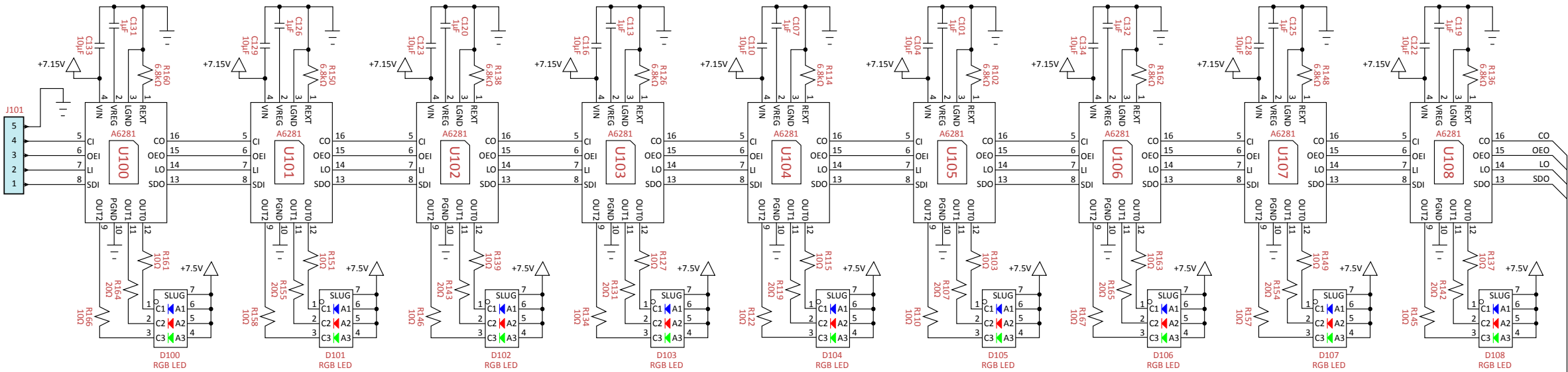


WOZ Tin Man RGB LED Board (WOZLED2)

15-0018-02, Revision 1.1

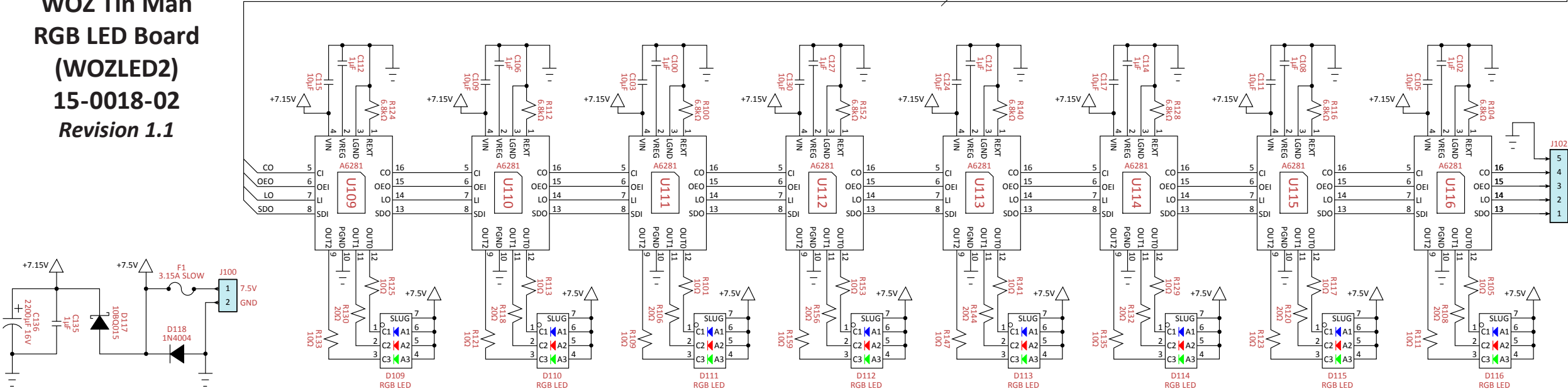
(games manufactured on/after Sep 4, 2013)

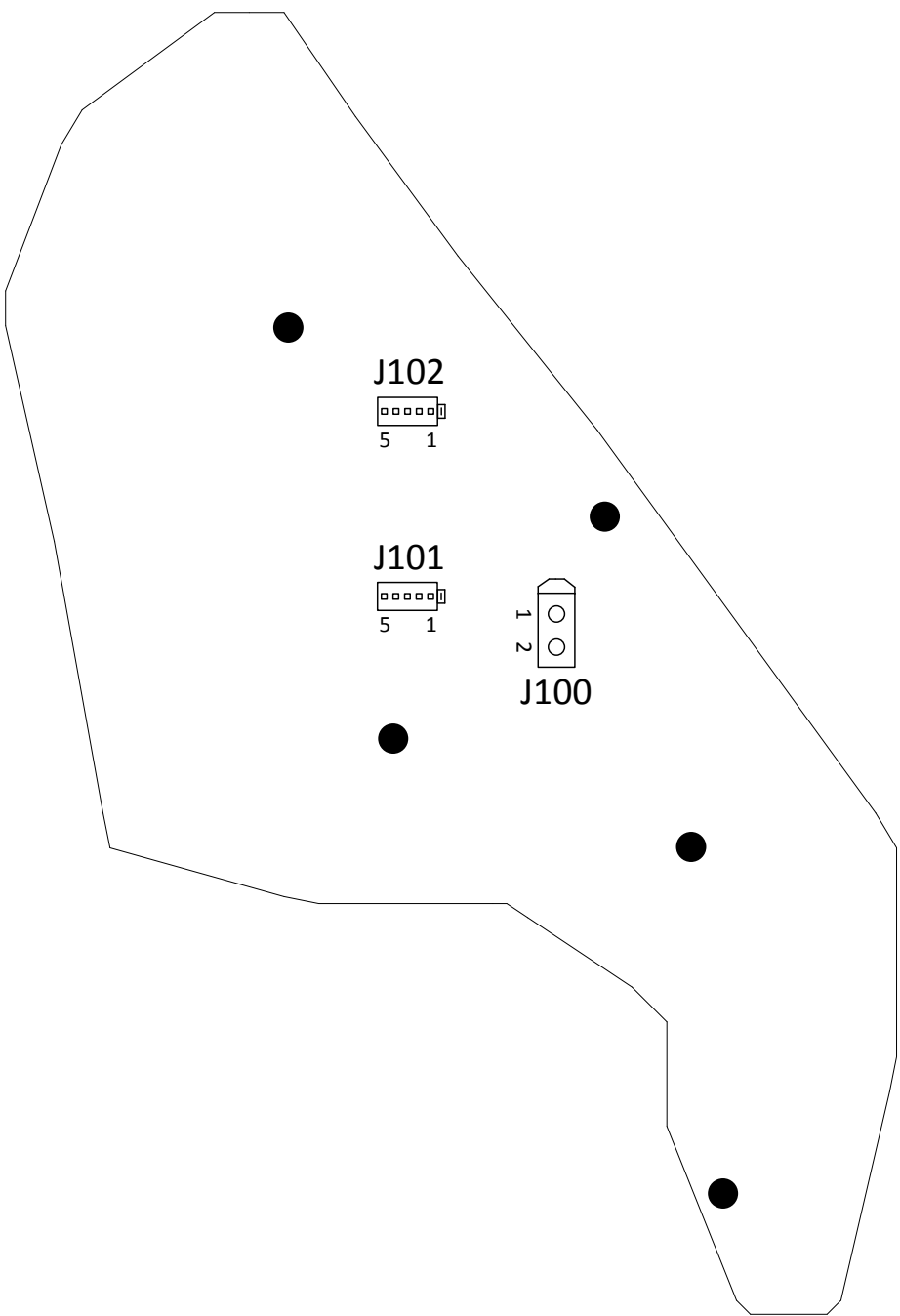
Component(s)	Part Number	Description
C100-C102, C106-C108, C112-C114, C119-C121, C125-C127, C131, C132, C135	100-105K-016	Capacitor, MLCC, 0805 SMT, 1μF, 16V, 10%
C103-C105, C109-C111, C115-C117, C122-C124, C128-C130, C133, C134	100-106M-016	Capacitor, MLCC, 0805 SMT, 10μF, 16V, 20%
C136	109-2K2M-016	Capacitor, Elect (Radial), 2200μF, 16V, 20%
D100-D116	24-0004-00	LED, SMT, High-Power RGB, 624/525/450nm
D117	110-0004-0S	Diode, 10BQ015, SMT, Schottky Rectifier, 1A
D118	110-0002-0T	Diode, 1N4004, 400V, 1A
F1	170-0332-ST	Fuse, Slow, Radial, Leaded, 3.15A, 300V
R100, R102, R104, R112, R114, R116, R124, R126, R128, R136, R138, R140, R148, R150, R152, R160, R162	120-06K8-334	Resistor, 0805 SMT, 6.8kΩ, 0.33W, 5%
R101, R103, R105, R109, R110, R111, R113, R115, R117, R121, R122, R123, R125, R127, R129, R133-R135, R137, R139, R141, R145-R147, R149, R151, R153, R157-R159	120-0010-254	Resistor, 0805 SMT, 10Ω, 0.25W, 5%
R161, R163, R166, R167 R106-R108, R118-R120, R130-R132, R142-R144, R154-R156, R164, R165	120-0020-254	Resistor, 0805 SMT, 20Ω, 0.25W, 5%
U100-U116	140-0001-0S	3-Ch Const Current LED Drvr, A6281, 16-QFN
J100	30-2005-00	Header, Male, 2-pin, 6.35mm
J101, J102	30-2001-00	Header, Male, 5-pin, 2mm



Logic Outputs 4

**WOZ Tin Man
RGB LED Board
(WOZLED2)
15-0018-02
Revision 1.1**





WOZ Tin Man RGB LED Board (WOZLED2), 15-0018-02
Connector Pin-outs, *Revision 1.1*

J100 Power Input

J100-1	VIO	+7.5VDC from 7.5VDC Power Supply or UPS Board, J4-2
J100-2	BLK	Ground from 7.5VDC Power Supply or UPS Board, J4-5

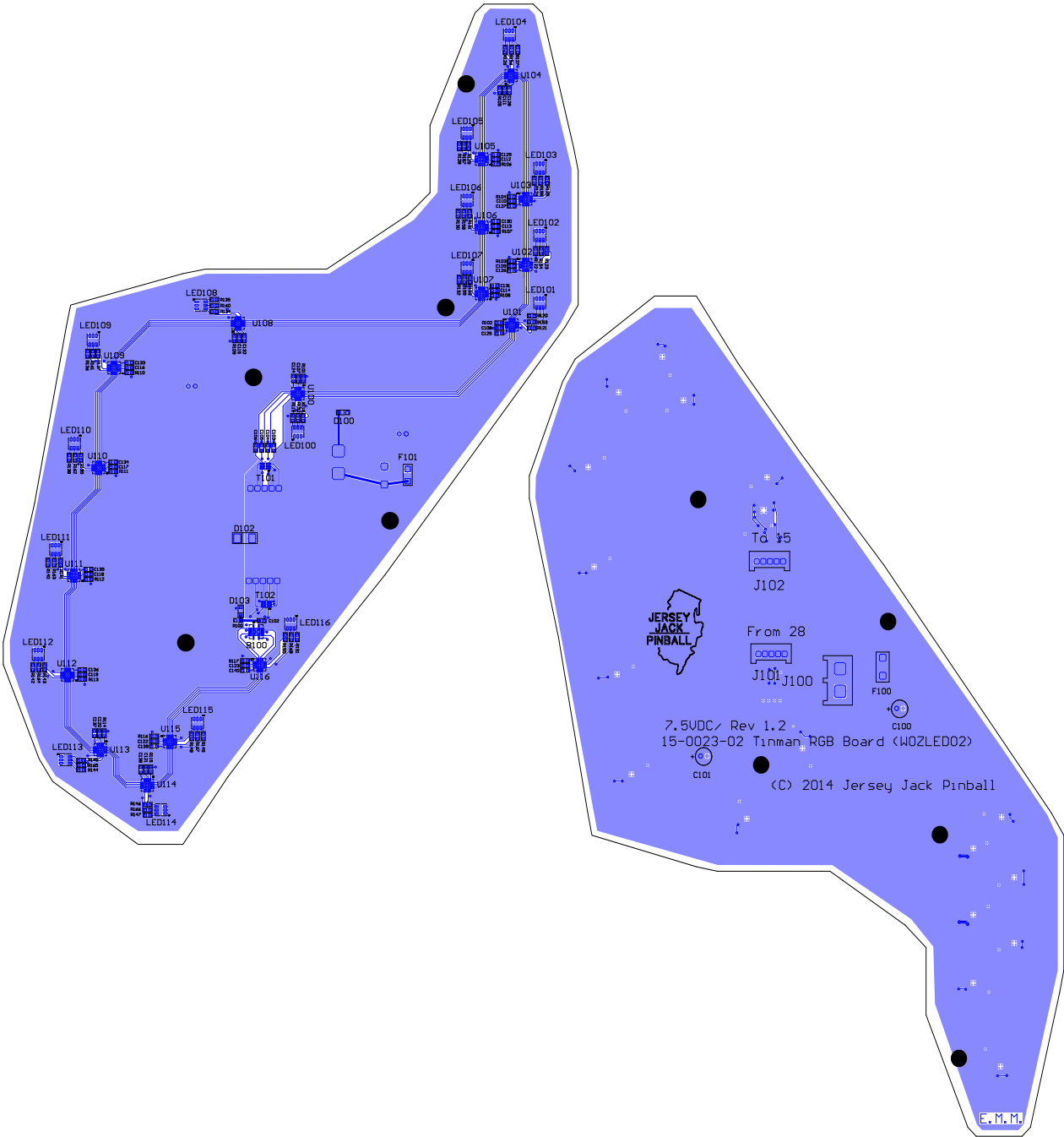
J101 RGB LED Control

J101-1	BLU	->
J101-2	WHT	-> Control signals from previous RGB LED board,
J101-3	BLU-WHT	-> WOZ Single GI RGB LED Board #28, J102
J101-4	WHT-BLU	->
J101-5	BLK	Ground (cable shield)

J102 RGB LED Control

J102-1	BLU	->
J102-2	WHT	-> Control signals to next RGB LED board,
J102-3	BLU-WHT	-> WOZ Single GI RGB LED Board #15, J101
J102-4	WHT-BLU	->
J102-5	BLK	Ground (cable shield)

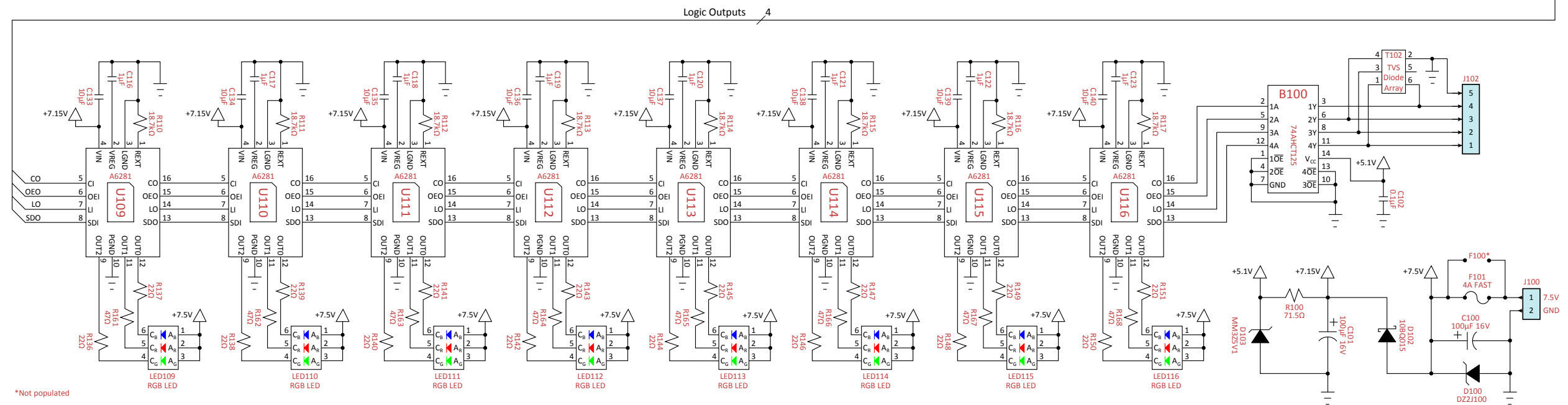
Note: All RGB LED Board connections to J100 pass through an in-line connector mounted in back panel of Cabinet PCB Chassis Assembly.

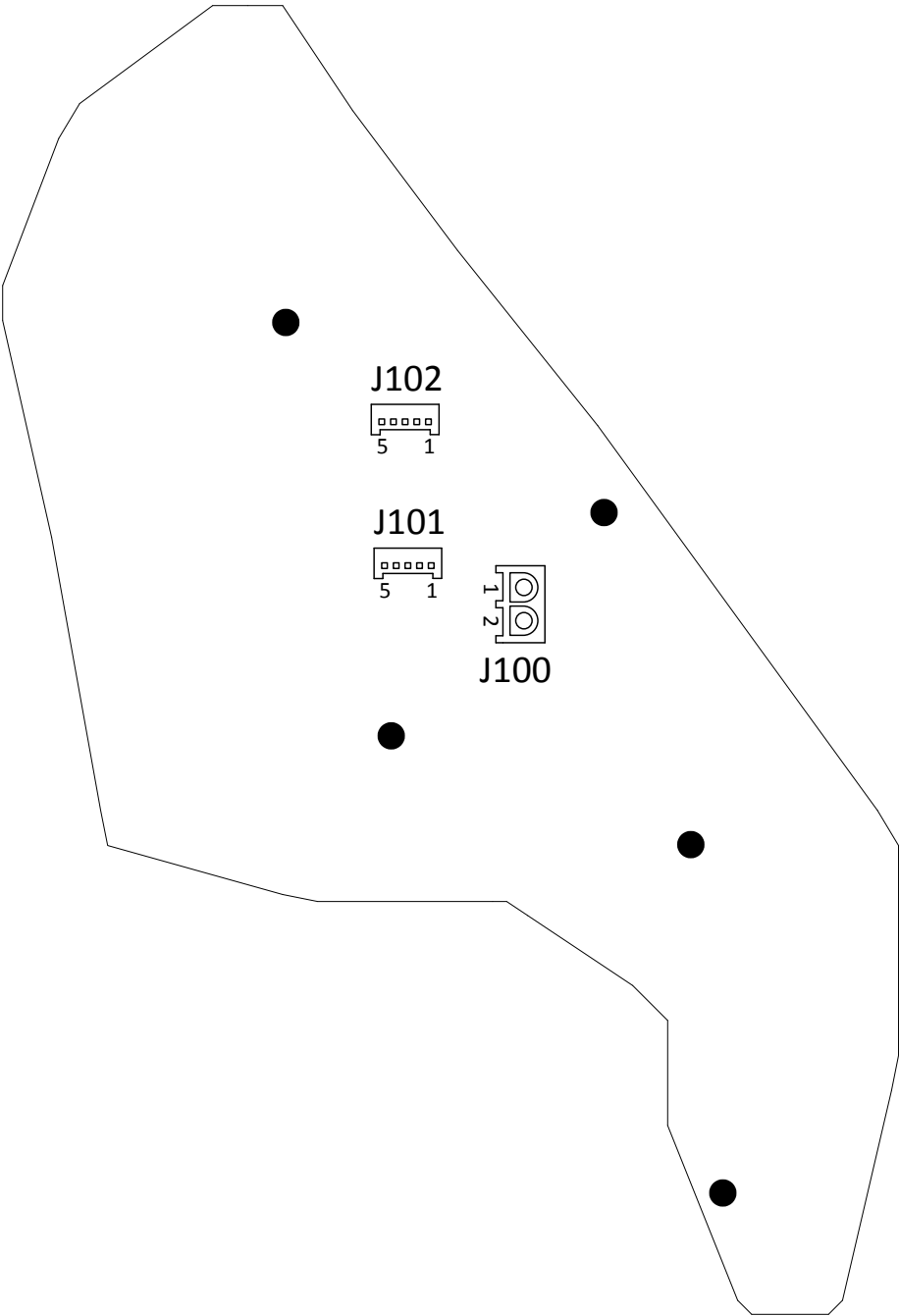


WOZ Tin Man RGB LED Board (WOZLED2)
15-0023-02, Revision 1.2

Component(s)	Part Number	Description
B100	141-0019-0S	Quad Bus Buffer Gates w/3-State Outputs, 74AHCT125, QFN-14 SMT
C100, C101	109-100M-016	Capacitor, Elect (Radial), 100μF, 16V, 20%
C102	103-104K-016	Capacitor, MLCC, 0603 SMT, 0.1μF, 16V, 10%
C103-C106	103-101J-050	Capacitor, MLCC, 0603 SMT, 100pF, 50V, 5%
C107-C123	103-105Z-016	Capacitor, MLCC, 0603 SMT, 1μF, 16V, +80%, -20%
C124-C140	100-106K-00	Capacitor, MLCC, 0805 SMT, 10μF, 16V, 10%
D100	110-0009-0S	Diode, DZ2J100, SMT, Zener, 10V, 200mW
D102	110-0004-0S	Diode, 10BQ015, SMT, Schottky Rectifier, 1A
D103	110-0010-0S	Diode, MM3Z5V1T1, SMT, Zener, 5.1V, 200mW
F100		Not Populated
F101	170-3204-FS	Fuse, Fast, 1206 SMT, 4A, 32V
LED100-LED116	24-0016-00	LED, SMT, High-Power RGB, 624/527/470nm
R100	122-71P5-102	Resistor, 0603 SMT, 71.5Ω, 0.1W, 1%
R101-R117	122-18K7-102	Resistor, 0603 SMT, 18.7kΩ, 0.1W, 1%
R118-R151	122-0022-104	Resistor, 0603 SMT, 22Ω, 0.1W, 5%
R152-R168	122-0047-104	Resistor, 0603 SMT, 47Ω, 0.1W, 5%
T101, T102	141-0017-0S	RailClamp TVS Diode Array, RClamp0504F, SC70-6L SMT
U100-U116	140-0001-0S	3-Ch Const Current LED Drvr, A6281, 16-QFN
J100	30-2005-00	Header, Male, 2-pin, 6.35mm
J101, J102	30-2001-00	Header, Male, 5-pin, 2mm

**WOZ Tin Man RGB
LED Board (WOZLED2)
15-0023-02, *Revision 1.2***





WOZ Tin Man RGB LED Board (WOZLED2), 15-0023-02
Connector Pin-outs, *Revision 1.2*

J100 Power Input

J100-1	VIO	+7.5VDC from 7.5VDC Power Supply or UPS Board, J4-2
J100-2	BLK	Ground from 7.5VDC Power Supply or UPS Board, J4-5

J101 RGB LED Control

J101-1	BLU	->
J101-2	WHT	-> Control signals from previous RGB LED board,
J101-3	BLU-WHT	-> WOZ Single GI RGB LED Board #28, J102
J101-4	WHT-BLU	->
J101-5	BLK	Ground (cable shield)

J102 RGB LED Control

J102-1	BLU	->
J102-2	WHT	-> Control signals to next RGB LED board,
J102-3	BLU-WHT	-> WOZ Single GI RGB LED Board #15, J101
J102-4	WHT-BLU	->
J102-5	BLK	Ground (cable shield)

Note: All RGB LED Board connections to J100 pass through an in-line connector mounted in back panel of Cabinet PCB Chassis Assembly.

15-0008-03, Revision 12
(games manufactured before Sep 4, 2013)

**JERSEY JACK
PINBALL**

J100

F1

D300

C300

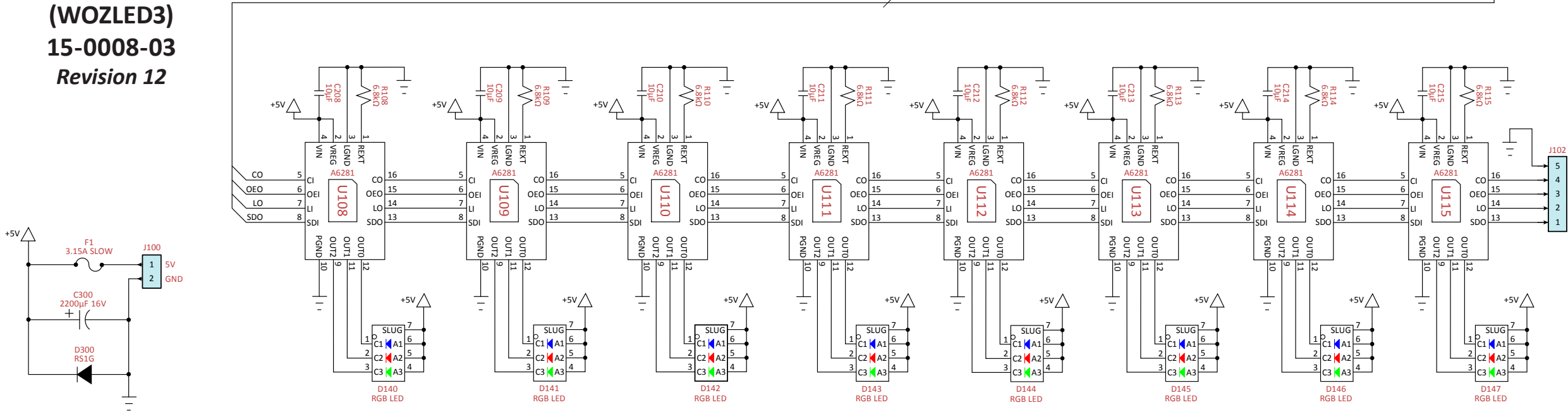
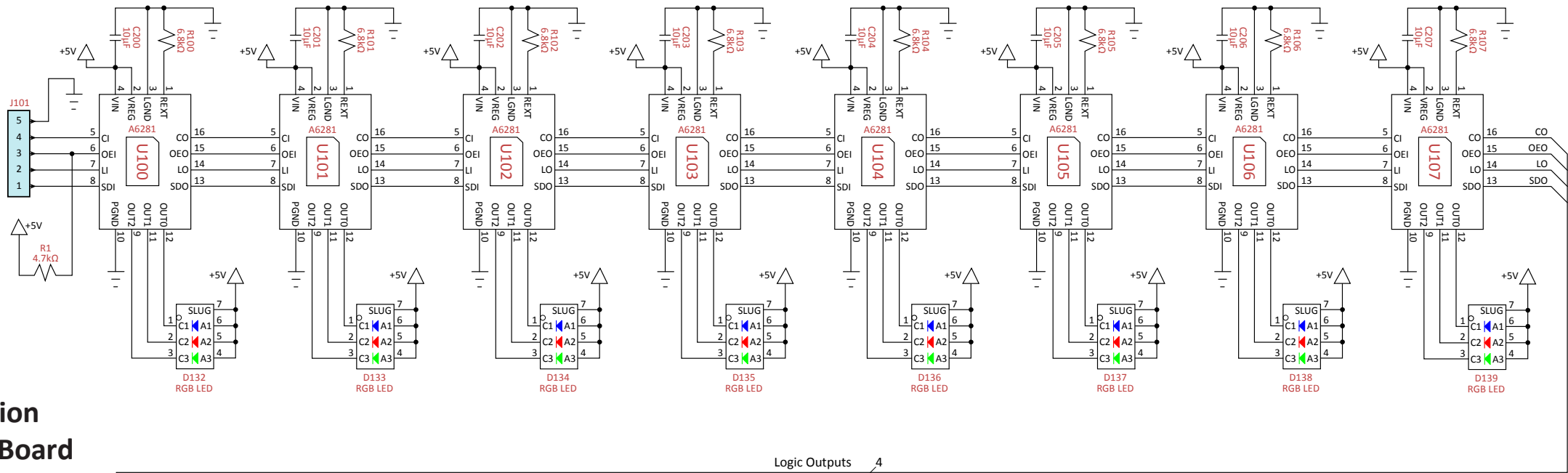
J101

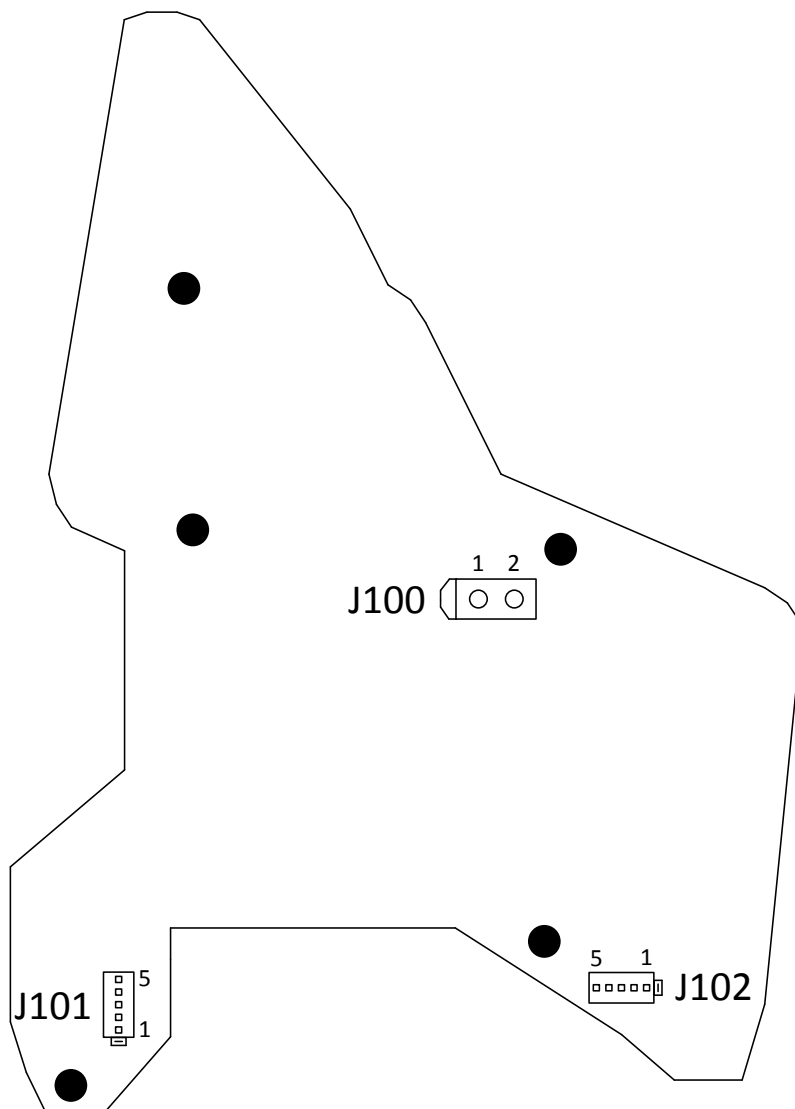
J102

WARNING
REVERSING POWER CONNECTOR
WILL DAMAGE THIS BOARD

(C) 2012 JERSEY JACK PINBALL
15-0008-03 Lion RGB board (WOZLED3)
5 VDC/REV. 12

Component(s)	Part Number
C200-C215	100
C300	109
D132-D147	24
D300	110
F1	170
R1	120
R100-R115	120
U100-U115	140
J100	30
J101, J102	30





WOZ Lion RGB LED Board (WOZLED3), 15-0008-03

Connector Pin-outs, *Revision 12*

J100 Power Input

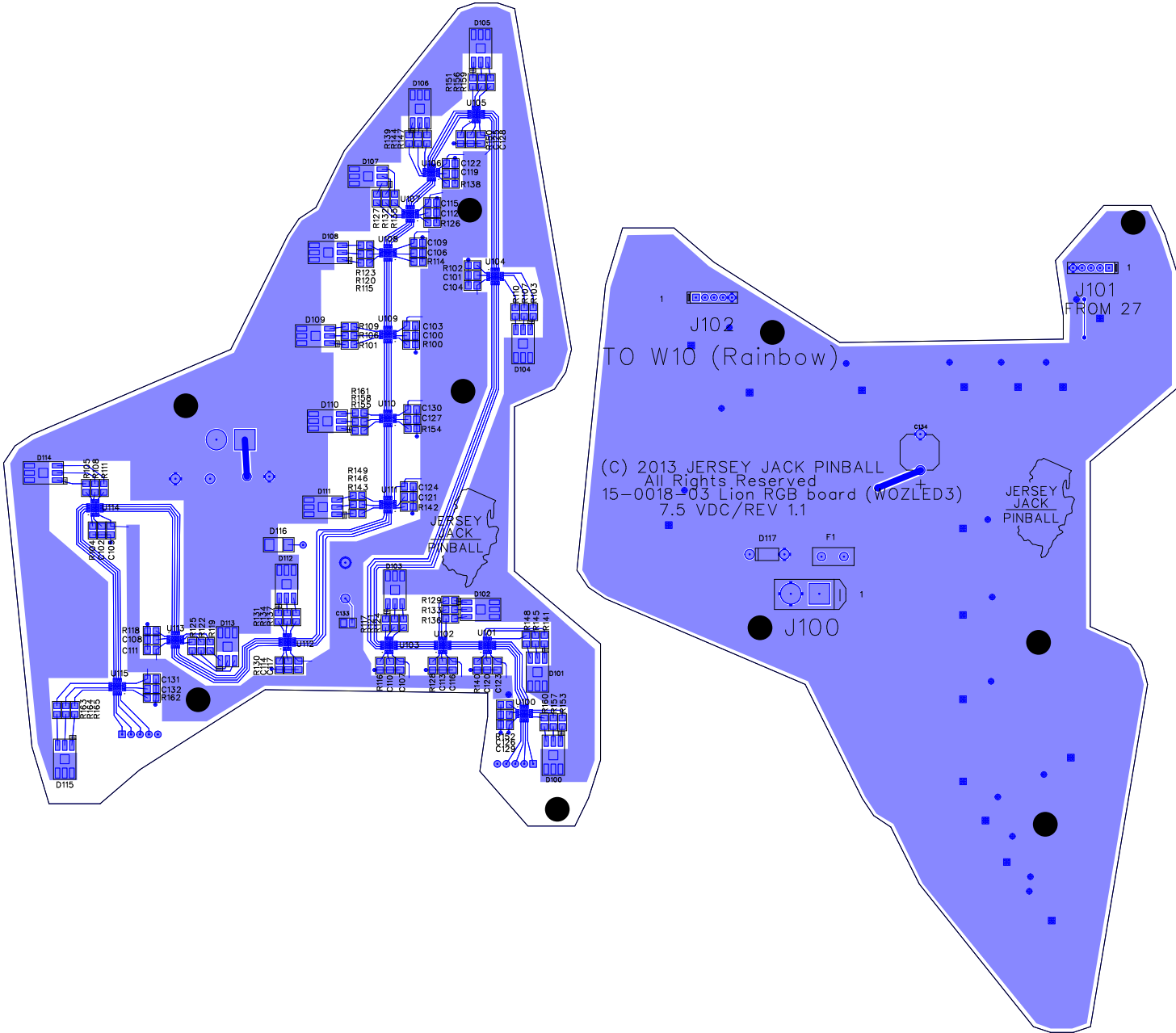
J100-1	VIO	+5VDC from 5VDC Power Supply
J100-2	BLK	Ground from 5VDC Power Supply

J101 RGB LED Control

J101-1	BLU	->
J101-2	WHT	-> Control signals from previous RGB LED board,
J101-3	BLU-WHT	-> WOZ Single GI RGB LED Board #27, J102
J101-4	WHT-BLU	->
J101-5	BLK	Ground (cable shield)

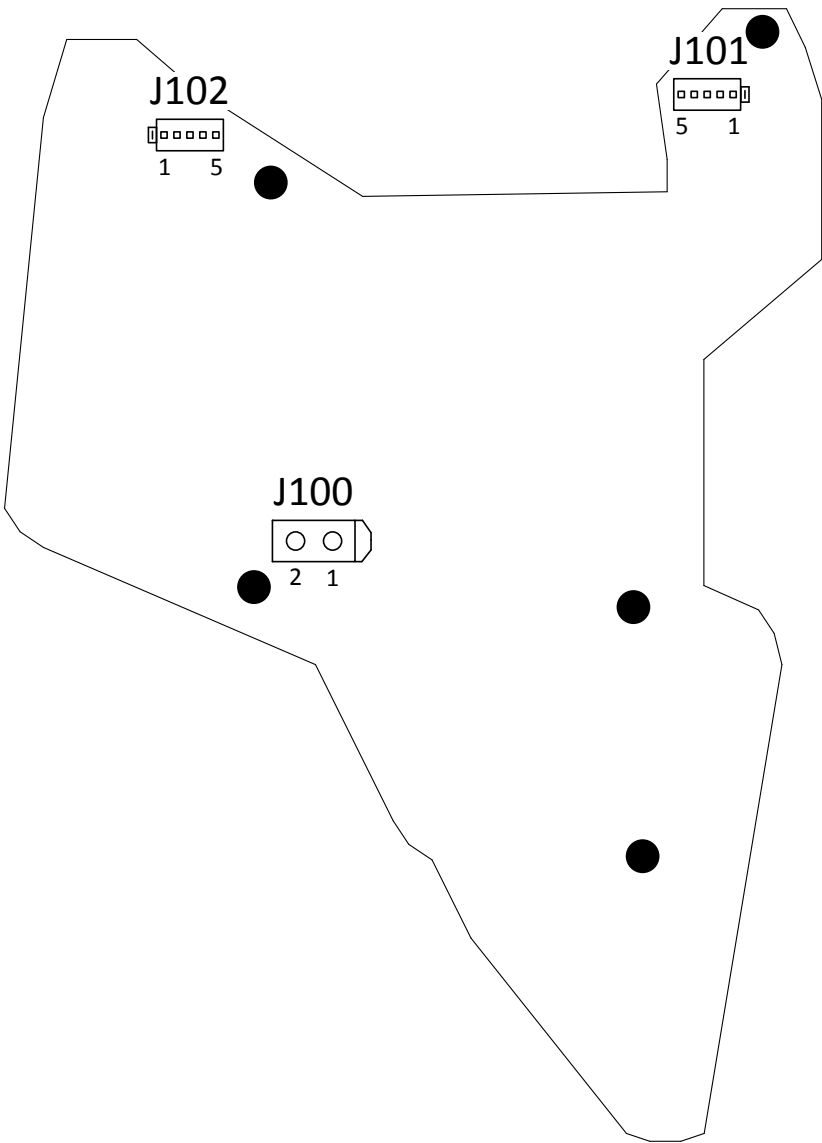
J102 RGB LED Control

J102-1	BLU	->
J102-2	WHT	-> Control signals to next RGB LED board,
J102-3	BLU-WHT	-> WOZ Rainbow RGB LED Board (WOZLED10), J101
J102-4	WHT-BLU	->
J102-5	BLK	Ground (cable shield)



WOZ Lion RGB LED Board (WOZLED3)
15-0018-03, Revision 1.1
(games manufactured on/after Sep 4, 2013)

Component(s)	Part Number	Description
C100-C102, C106-C108, C112-C114, C119-C121, C125-C127, C132, C133 C103-C105, C109-C111, C115-C117, C122-C124, C128-C131 C134 D100-D115 D116 D117 F1	100-105K-016 100-106M-016 109-2K2M-016 24-0004-00 110-0004-0S 110-0002-0T 170-0332-ST	Capacitor, MLCC, 0805 SMT, 1μF, 16V, 10% Capacitor, MLCC, 0805 SMT, 10μF, 16V, 20% Capacitor, Elect (Radial), 2200μF, 16V, 20% LED, SMT, High-Power RGB, 624/525/450nm Diode, 10BQ015, SMT, Schottky Rectifier, 1A Diode, 1N4004, 400V, 1A Fuse, Slow, Radial, Leaded, 3.15A, 300V
R100, R102, R104, R114, R116, R118, R126, R128, R130, R138, R140, R142, R150, R152, R154, R162 R101, R103, R105, R109-R111, R115, R117, R119, R123-R125, R127, R129, R131, R135-R137, R139, R141, R143, R147-R149, R151, R153, R155, R159-R161, R163, R165	120-06K8-334 120-0010-254	Resistor, 0805 SMT, 6.8kΩ, 0.33W, 5% Resistor, 0805 SMT, 10Ω, 0.25W, 5%
R106-R108, R120-R122, R132-R134, R144-R146, R156-R158, R164 U100-U115 J100 J101, J102	120-0020-254 140-0001-0S 30-2005-00 30-2001-00	Resistor, 0805 SMT, 20Ω, 0.25W, 5% 3-Ch Const Current LED Drvr, A6281, 16-QFN Header, Male, 2-pin, 6.35mm Header, Male, 5-pin, 2mm



WOZ Lion RGB LED Board (WOZLED3), 15-0018-03
Connector Pin-outs, *Revision 1.1*

J100 Power Input

J100-1	VIO	+7.5VDC from 7.5VDC Power Supply or UPS Board, J4-3
J100-2	BLK	Ground from 7.5VDC Power Supply or UPS Board, J4-6

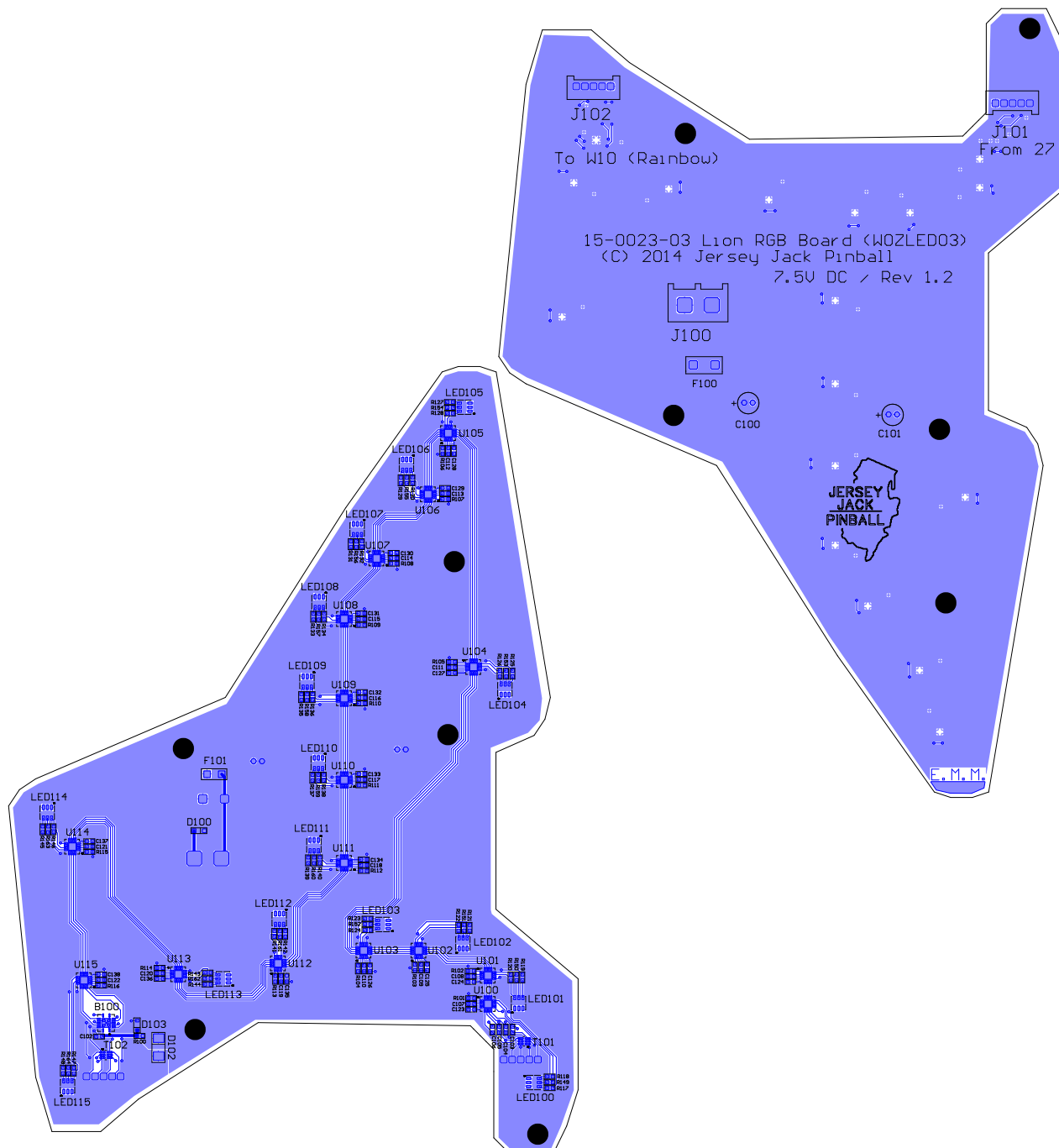
J101 RGB LED Control

J101-1	BLU	->
J101-2	WHT	-> Control signals from previous RGB LED board,
J101-3	BLU-WHT	-> WOZ Single GI RGB LED Board #27, J102
J101-4	WHT-BLU	->
J101-5	BLK	Ground (cable shield)

J102 RGB LED Control

J102-1	BLU	->
J102-2	WHT	-> Control signals to next RGB LED board,
J102-3	BLU-WHT	-> WOZ Rainbow RGB LED Board (WOZLED10), J101
J102-4	WHT-BLU	->
J102-5	BLK	Ground (cable shield)

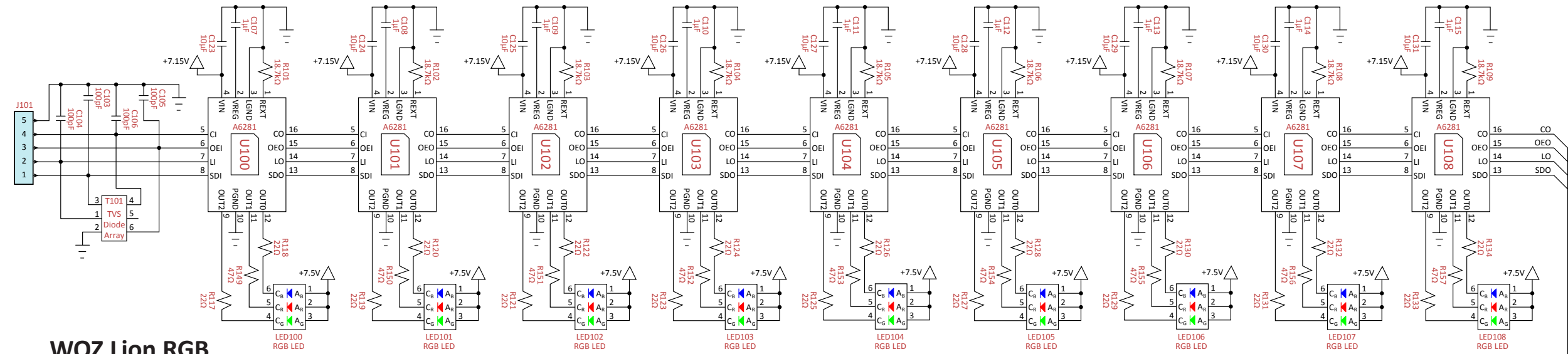
Note: All RGB LED Board connections to J100 pass through an in-line connector mounted in back panel of Cabinet PCB Chassis Assembly.



WOZ Lion RGB LED Board (WOZLED3)

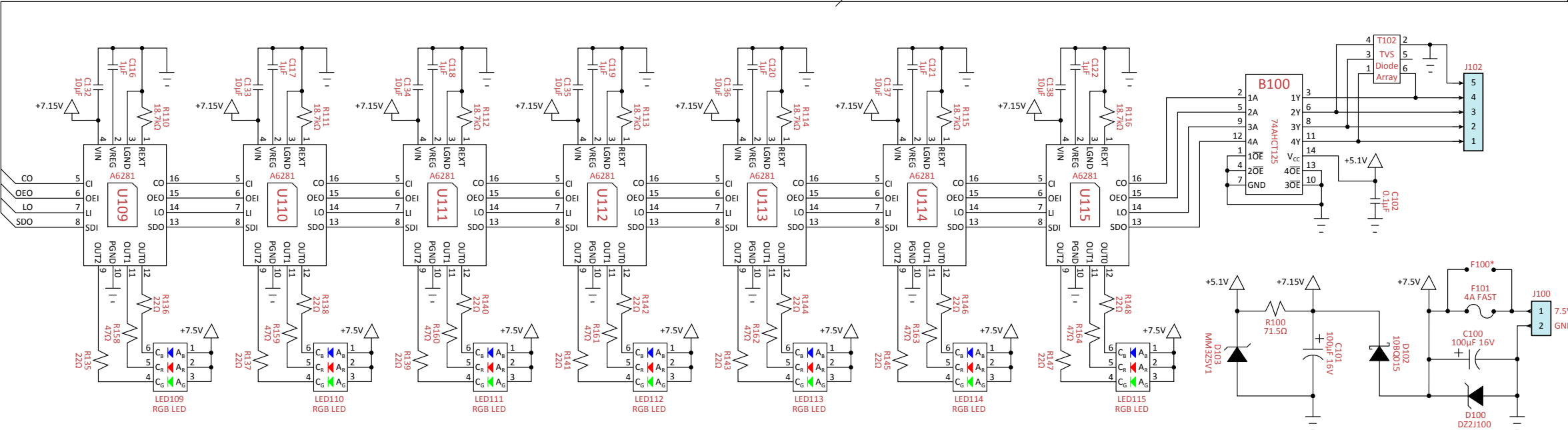
15-0023-03, Revision 1.2

Component(s)	Part Number	Description
B100	141-0019-0S	Quad Bus Buffer Gates w/3-State Outputs, 74AHCT125, QFN-14 SMT
C100, C101	109-100M-016	Capacitor, Elect (Radial), 100μF, 16V, 20%
C102	103-104K-016	Capacitor, MLCC, 0603 SMT, 0.1μF, 16V, 10%
C103-C106	103-101J-050	Capacitor, MLCC, 0603 SMT, 100pF, 50V, 5%
C107-C122	103-105Z-016	Capacitor, MLCC, 0603 SMT, 1μF, 16V, +80%, -20%
C123-C138	100-106K-00	Capacitor, MLCC, 0805 SMT, 10μF, 16V, 10%
D100	110-0009-0S	Diode, DZ2J100, SMT, Zener, 10V, 200mW
D102	110-0004-0S	Diode, 10BQ015, SMT, Schottky Rectifier, 1A
D103	110-0010-0S	Diode, MM3Z5V1T1, SMT, Zener, 5.1V, 200mW
F100		Not Populated
F101	170-3204-FS	Fuse, Fast, 1206 SMT, 4A, 32V
LED100-LED115	24-0016-00	LED, SMT, High-Power RGB, 624/527/470nm
R100	122-71P5-102	Resistor, 0603 SMT, 71.5Ω, 0.1W, 1%
R101-R116	122-18K7-102	Resistor, 0603 SMT, 18.7kΩ, 0.1W, 1%
R117-R148	122-0022-104	Resistor, 0603 SMT, 22Ω, 0.1W, 5%
R149-R164	122-0047-104	Resistor, 0603 SMT, 47Ω, 0.1W, 5%
T101, T102	141-0017-0S	RailClamp TVS Diode Array, RClamp0504F, SC70-6L SMT
U100-U115	140-0001-0S	3-Ch Const Current LED Drvr, A6281, 16-QFN
J100	30-2005-00	Header, Male, 2-pin, 6.35mm
J101, J102	30-2001-00	Header, Male, 5-pin, 2mm

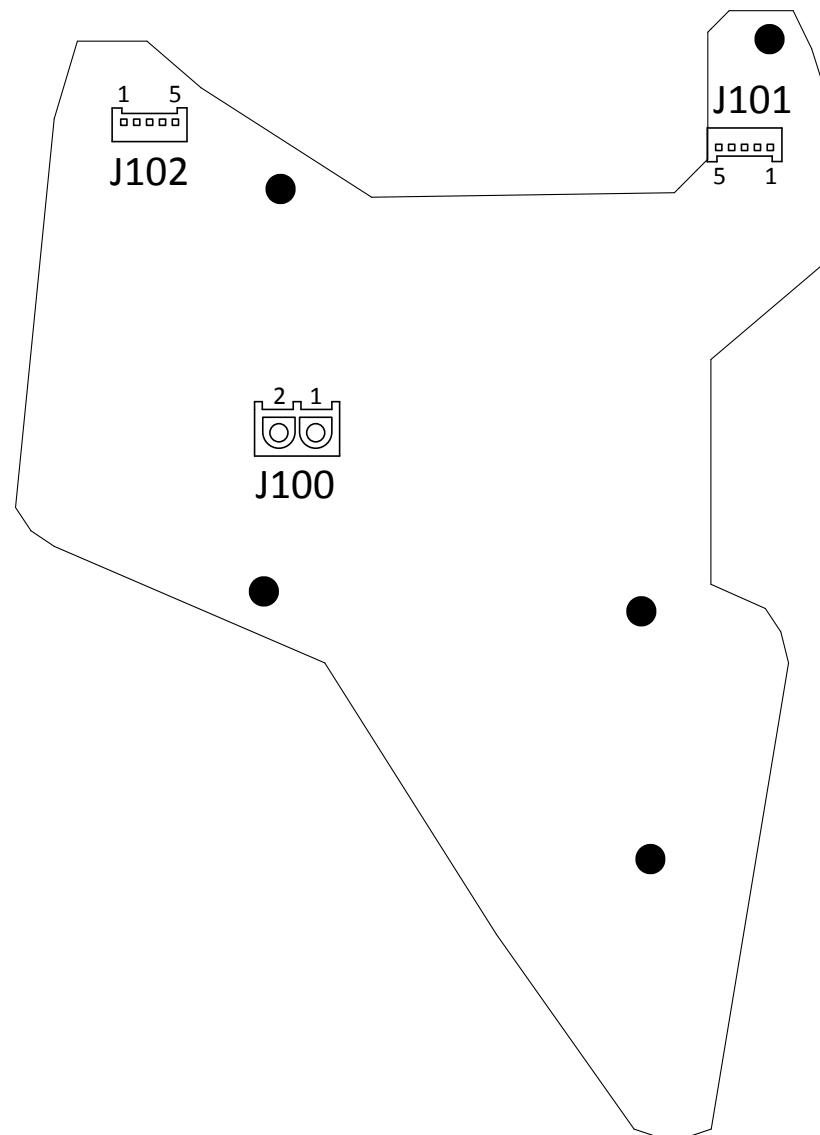


WOZ Lion RGB
LED Board (WOZLED3)
15-0023-03, Revision 1.2

Logic Outputs 4



*Not populated



WOZ Lion RGB LED Board (WOZLED3), 15-0023-03

Connector Pin-outs, *Revision 1.2*

J100 Power Input

J100-1	VIO	+7.5VDC from 7.5VDC Power Supply or UPS Board, J4-3
J100-2	BLK	Ground from 7.5VDC Power Supply or UPS Board, J4-6

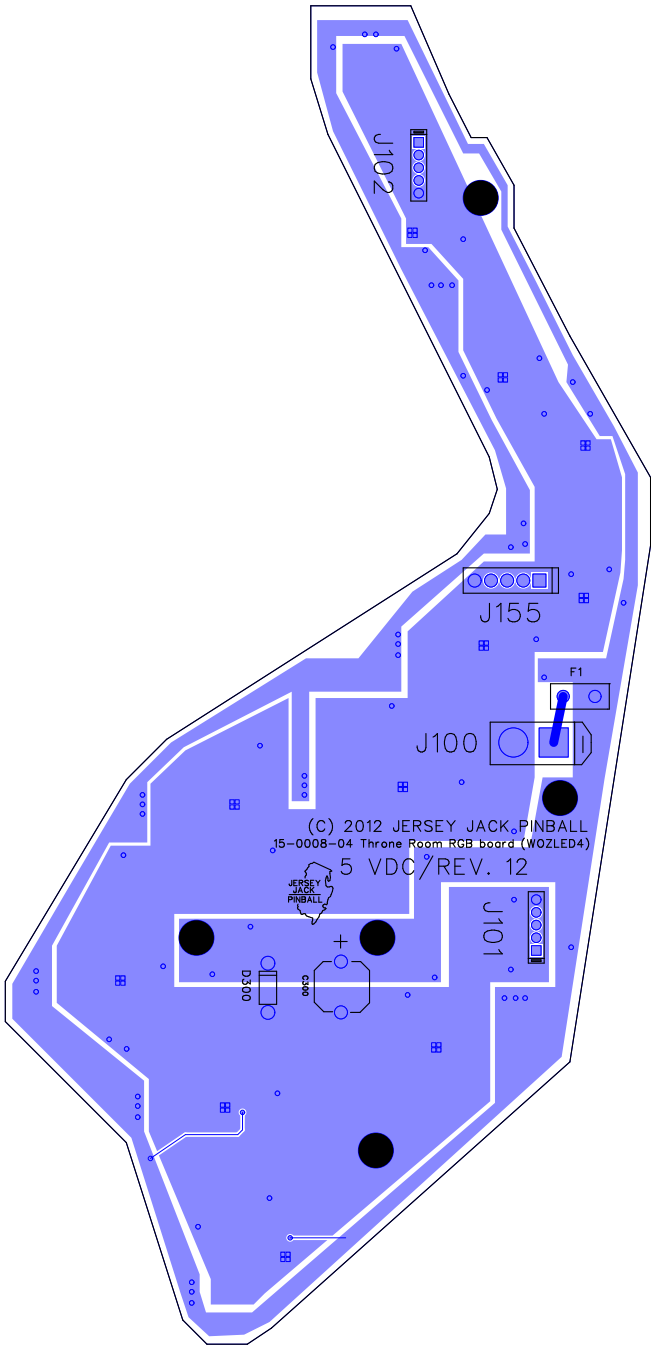
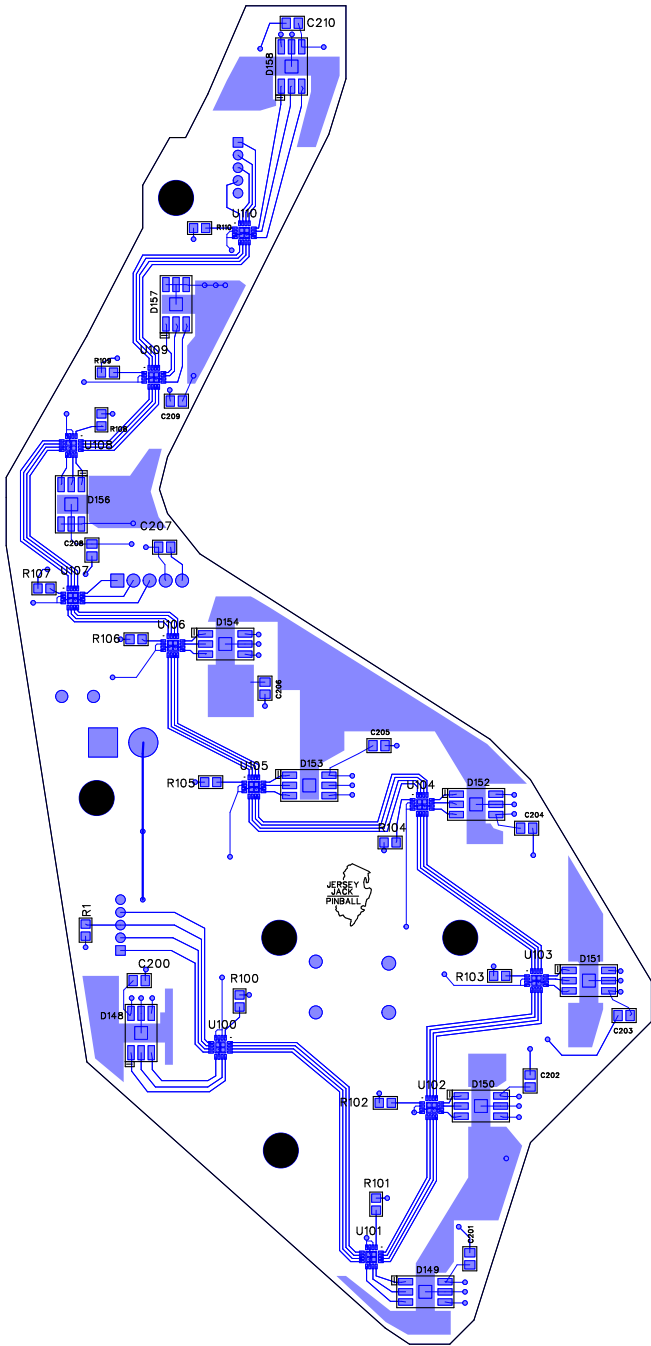
J101 RGB LED Control

J101-1	BLU	->
J101-2	WHT	-> Control signals from previous RGB LED board,
J101-3	BLU-WHT	-> WOZ Single GI RGB LED Board #27, J102
J101-4	WHT-BLU	->
J101-5	BLK	Ground (cable shield)

J102 RGB LED Control

J102-1	BLU	->
J102-2	WHT	-> Control signals to next RGB LED board,
J102-3	BLU-WHT	-> WOZ Rainbow RGB LED Board (WOZLED10), J101
J102-4	WHT-BLU	->
J102-5	BLK	Ground (cable shield)

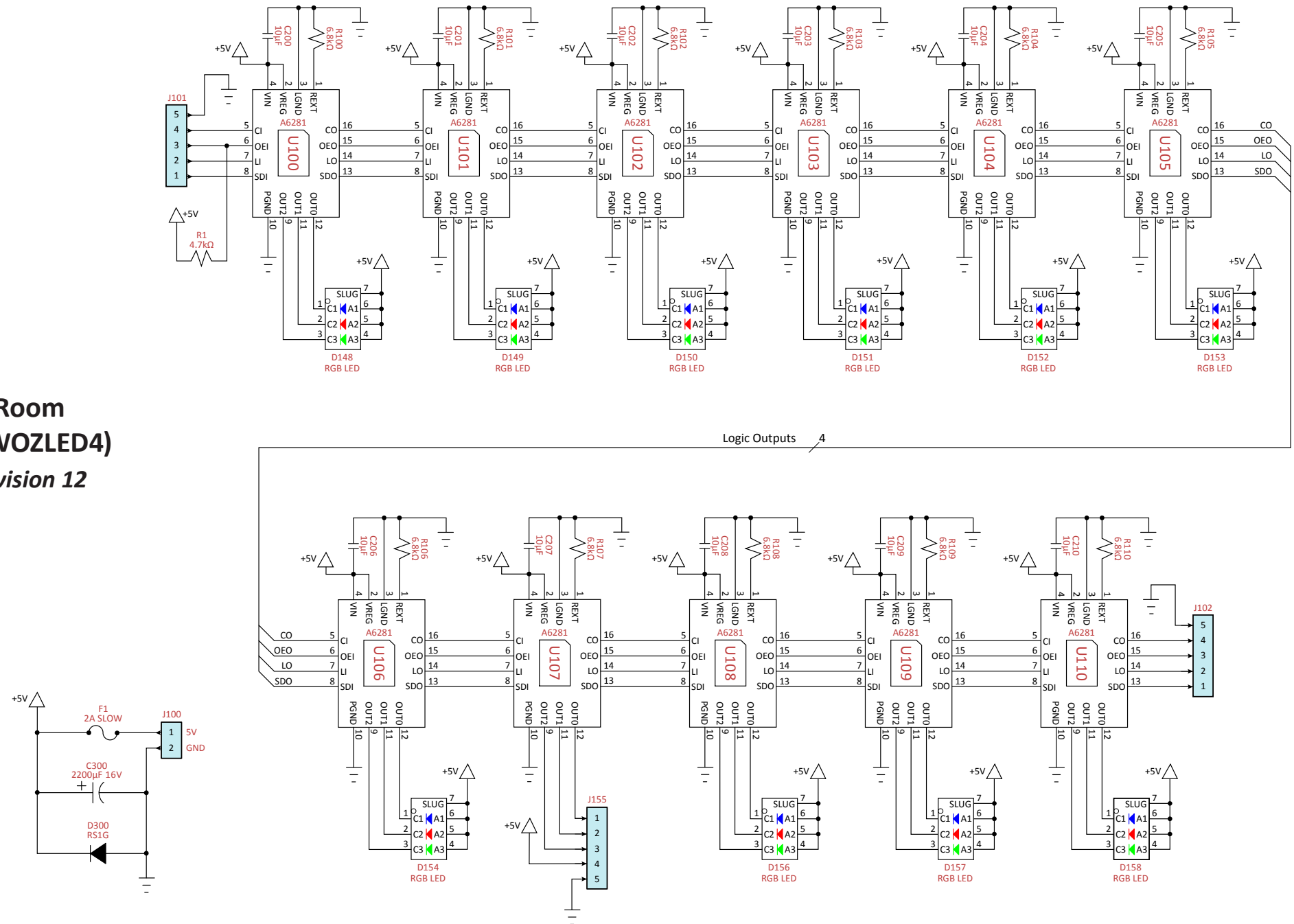
Note: All RGB LED Board connections to J100 pass through an in-line connector mounted in back panel of Cabinet PCB Chassis Assembly.

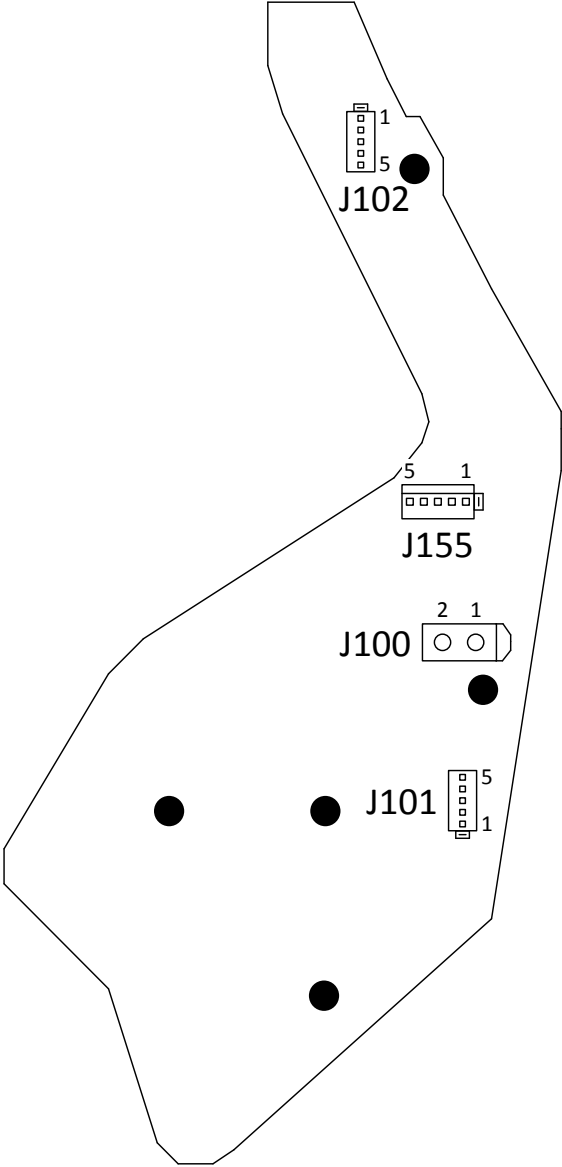


WOZ Throne Room RGB LED Board, (WOZLED4)
15-0008-04, Revision 12
(games manufactured before Sep 4, 2013)

Component(s)	Part Number	Description
C200-C210	100-106M-016	Capacitor, MLCC, 0805 SMT, 10µF, 16V, 20%
C300	109-2K2M-016	Capacitor, Elect (Radial), 2200µF, 16V, 20%
D148-D154,		
D156-D158	24-0004-00	LED, SMT, High-Power RGB, 624/525/450nm
D300	110-5001-0S	Diode, RS1G, SMT, 400V, 1A, 150ns
F1	170-0302-ST	Fuse, Slow, Radial, Leaded, 2A, 300V
R1	120-04K7-334	Resistor, 0805 SMT, 4.7kΩ, 0.33W, 5%
R100-R110	120-06K8-334	Resistor, 0805 SMT, 6.8kΩ, 0.33W, 5%
U100-U110	140-0001-0S	3-Ch Const Current LED Drvr, A6281, 16-QFN
J100	30-2005-00	Header, Male, 2-pin, 6.35mm
J101, J102	30-2001-00	Header, Male, 5-pin, 2mm
J155	30-2002-00	Header, Male, 5-pin, 2.54mm

WOZ Throne Room
RGB LED Board (WOZLED4)
15-0008-04, Revision 12





WOZ Throne Room RGB LED Board (WOZLED4), 15-0008-04
Connector Pin-outs, Revision 12

J100 Power Input

J100-1	VIO	+5VDC from 5VDC Power Supply
J100-2	BLK	Ground from 5VDC Power Supply

J101 RGB LED Control

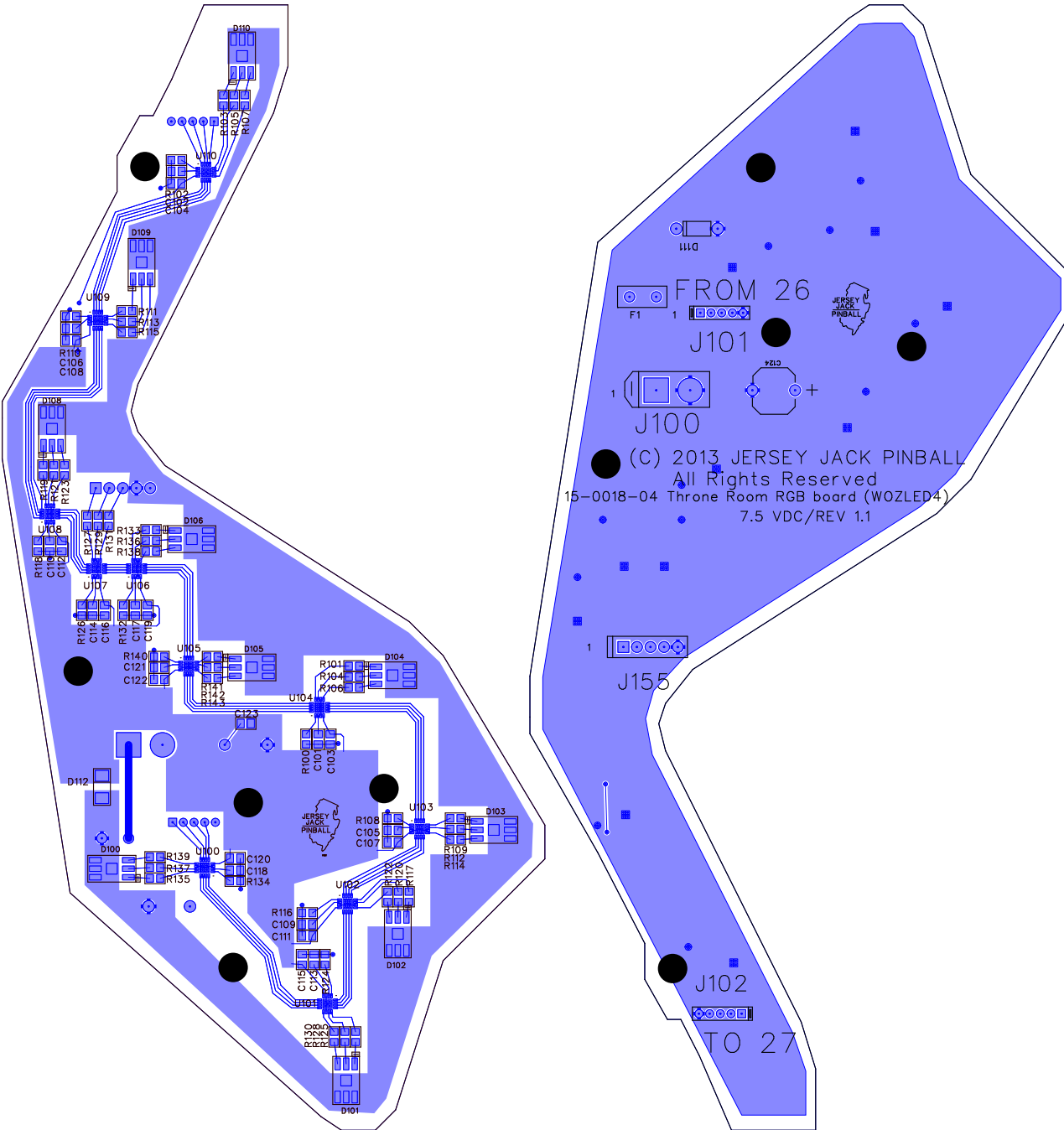
J101-1	BLU	->
J101-2	WHT	-> Control signals from previous RGB LED board,
J101-3	BLU-WHT	-> WOZ Single GI RGB LED Board #26, J102
J101-4	WHT-BLU	->
J101-5	BLK	Ground (cable shield)

J102 RGB LED Control

J102-1	BLU	->
J102-2	WHT	-> Control signals to next RGB LED board,
J102-3	BLU-WHT	-> WOZ Single GI RGB LED Board #27, J101
J102-4	WHT-BLU	->
J102-5	BLK	Ground (cable shield)

J155 RGB LED Drive

J155-1	BLU	-> Drive signals to WOZ Satellite
J155-2	WHT	-> RGB LED Board #155, J100
J155-3	BLU-WHT	->
J155-4	WHT-BLU	+5VDC to satellite RGB LED board
J155-5	BLK	Ground (cable shield)



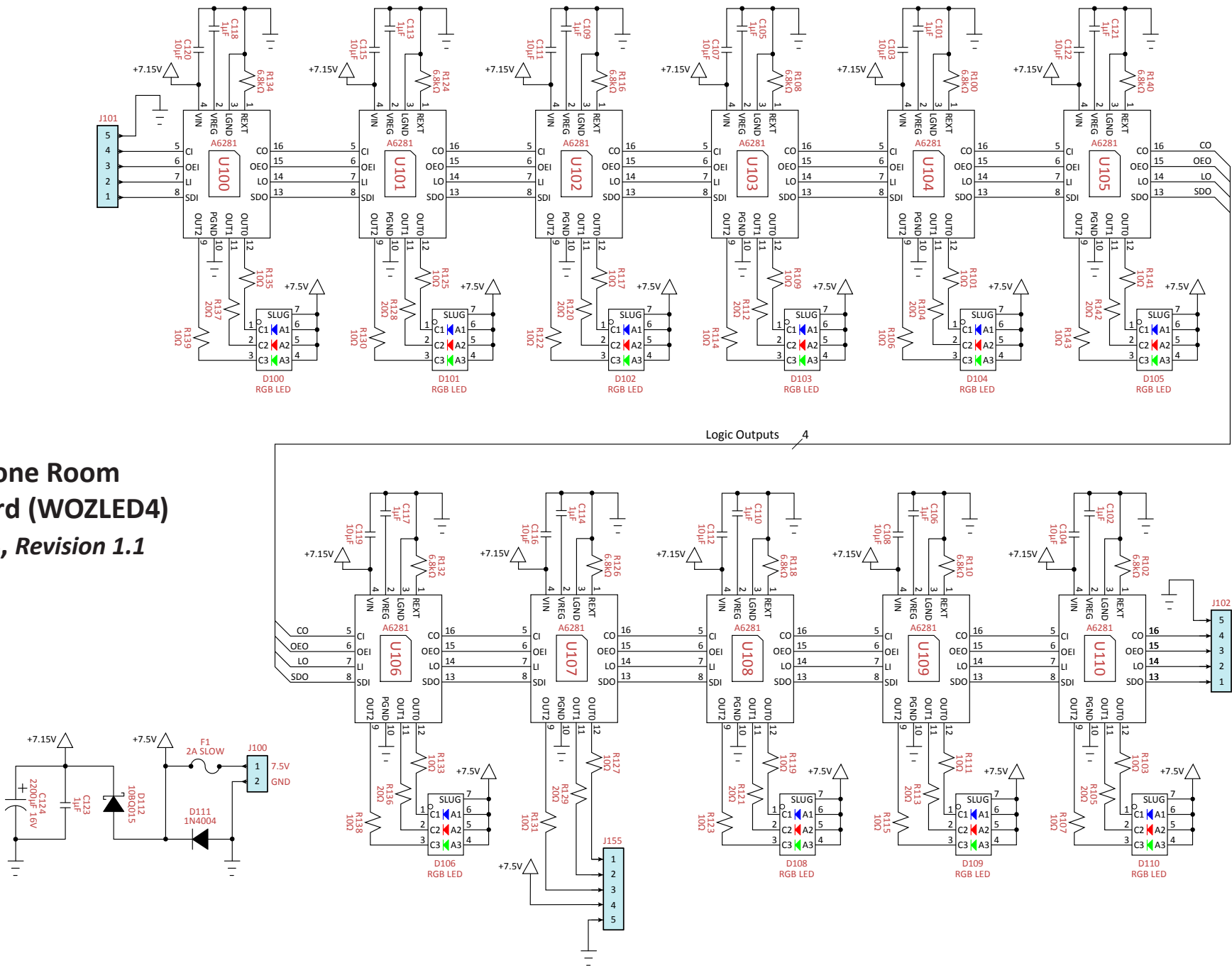
WOZ Throne Room RGB LED Board (WOZLED4)

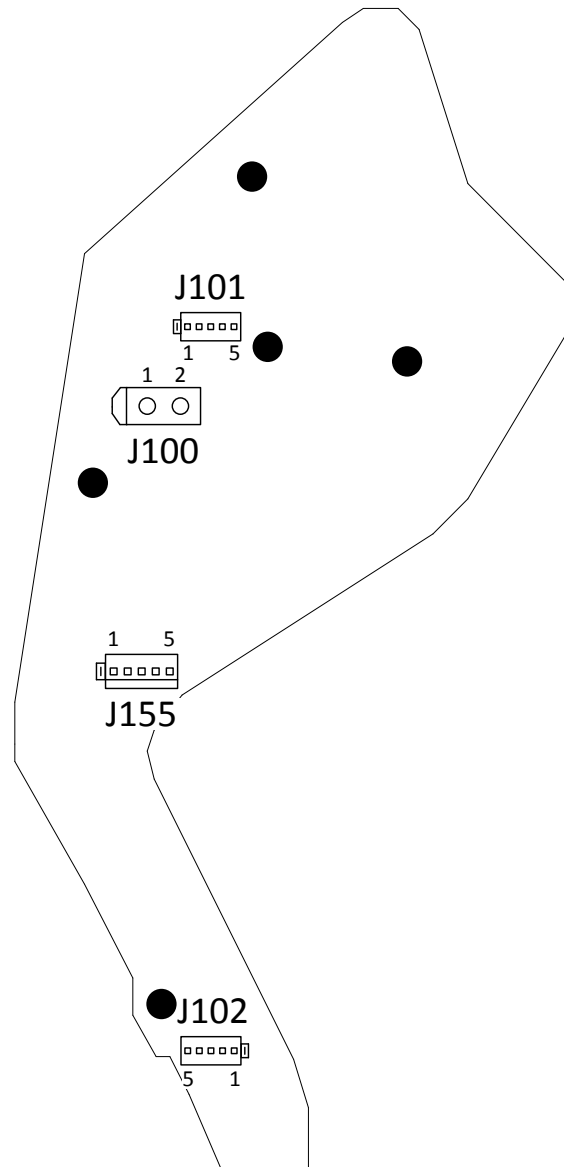
15-0018-04, Revision 1.1

(games manufactured on/after Sep 4, 2013)

Component(s)	Part Number	Description
C101, C102, C105, C106, C109, C110, C113, C114, C117, C118, C121, C123	100-105K-016	Capacitor, MLCC, 0805 SMT, 1μF, 16V, 10%
C103, C104, C107, C108, C111, C112, C115, C116, C119, C120, C122	100-106M-016	Capacitor, MLCC, 0805 SMT, 10μF, 16V, 20%
C124	109-2K2M-016	Capacitor, Elect (Radial), 2200μF, 16V, 20%
D100-D106, D108-D110	24-0004-00	LED, SMT, High-Power RGB, 624/525/450nm
D111	110-0002-0T	Diode, 1N4004, 400V, 1A
D112	110-0004-0S	Diode, 10BQ015, SMT, Schottky Rectifier, 1A
F1	170-0302-ST	Fuse, Slow, Radial, Leaded, 2A, 300V
R100, R102, R108, R110, R116, R118, R124, R126, R132, R134, R140	120-06K8-334	Resistor, 0805 SMT, 6.8kΩ, 0.33W, 5%
R101, R103, R106, R107, R109, R111, R114, R115, R117, R119, R122, R123, R125, R127, R130, R131, R133, R135, R138, R139, R141, R143	120-0010-254	Resistor, 0805 SMT, 10Ω, 0.25W, 5%
R104, R105, R112, R113, R120, R121, R128, R129, R136, R137, R142	120-0020-254	Resistor, 0805 SMT, 20Ω, 0.25W, 5%
U100-U110	140-0001-0S	3-Ch Const Current LED Drvr, A6281, 16-QFN
J100	30-2005-00	Header, Male, 2-pin, 6.35mm
J101, J102	30-2001-00	Header, Male, 5-pin, 2mm
J155	30-2002-00	Header, Male, 5-pin, 2.54mm

WOZ Throne Room
RGB LED Board (WOZLED4)
15-0018-04, Revision 1.1





WOZ Throne Room RGB LED Board (WOZLED4), 15-0018-04

Connector Pin-outs, *Revision 1.1*

J100 Power Input

J100-1	VIO	+7.5VDC from 7.5VDC Power Supply or UPS Board, J4-3
J100-2	BLK	Ground from 7.5VDC Power Supply or UPS Board, J4-6

J101 RGB LED Control

J101-1	BLU	->
J101-2	WHT	-> Control signals from previous RGB LED board,
J101-3	BLU-WHT	-> WOZ Single GI RGB LED Board #26, J102
J101-4	WHT-BLU	->
J101-5	BLK	Ground (cable shield)

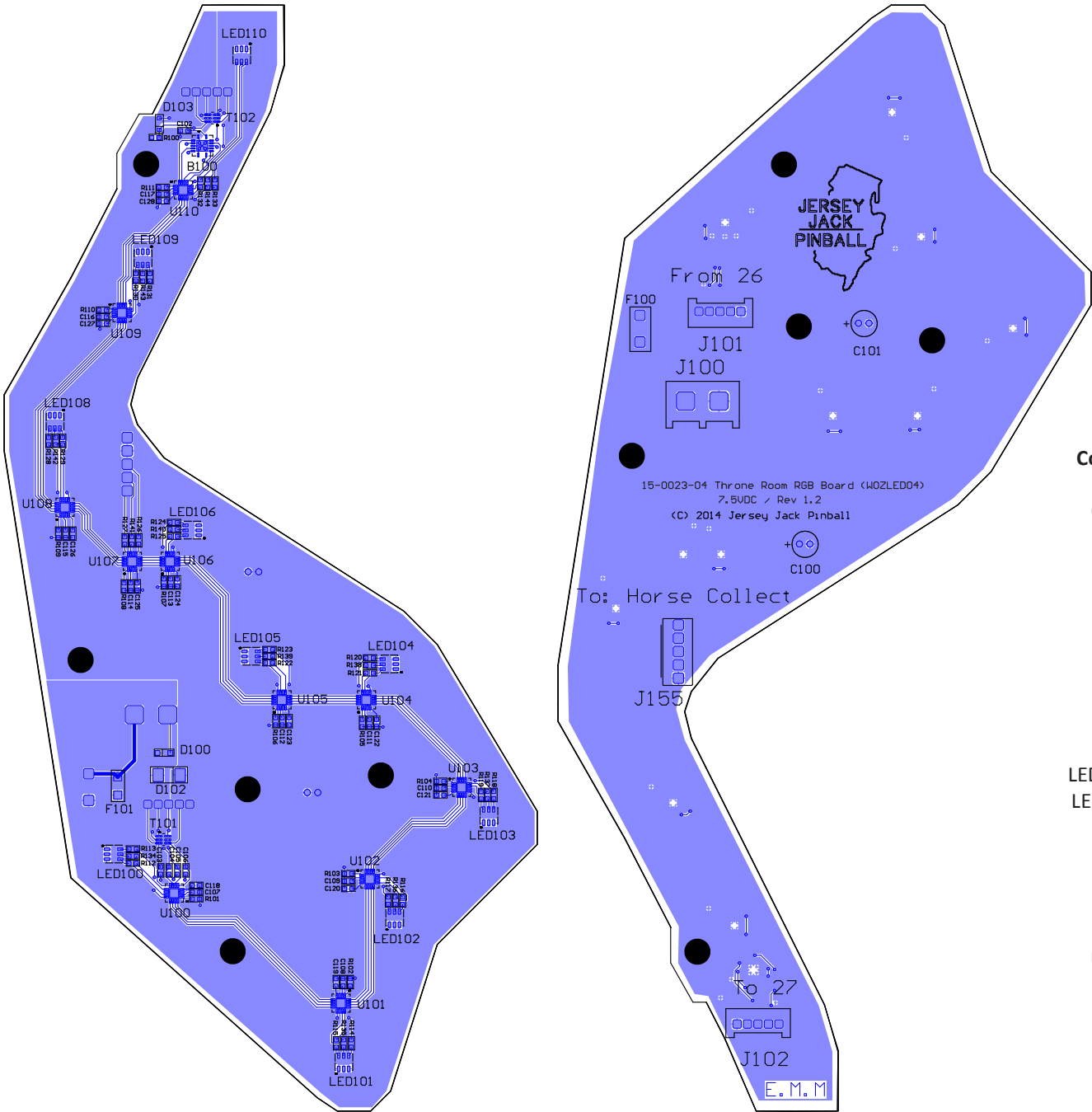
J102 RGB LED Control

J102-1	BLU	->
J102-2	WHT	-> Control signals to next RGB LED board,
J102-3	BLU-WHT	-> WOZ Single GI RGB LED Board #27, J101
J102-4	WHT-BLU	->
J102-5	BLK	Ground (cable shield)

J155 RGB LED Drive

J155-1	BLU	-> Drive signals to WOZ Satellite
J155-2	WHT	-> RGB LED Board #155, J100
J155-3	BLU-WHT	->
J155-4	WHT-BLU	+7.5VDC to satellite RGB LED board
J155-5	BLK	Ground (cable shield)

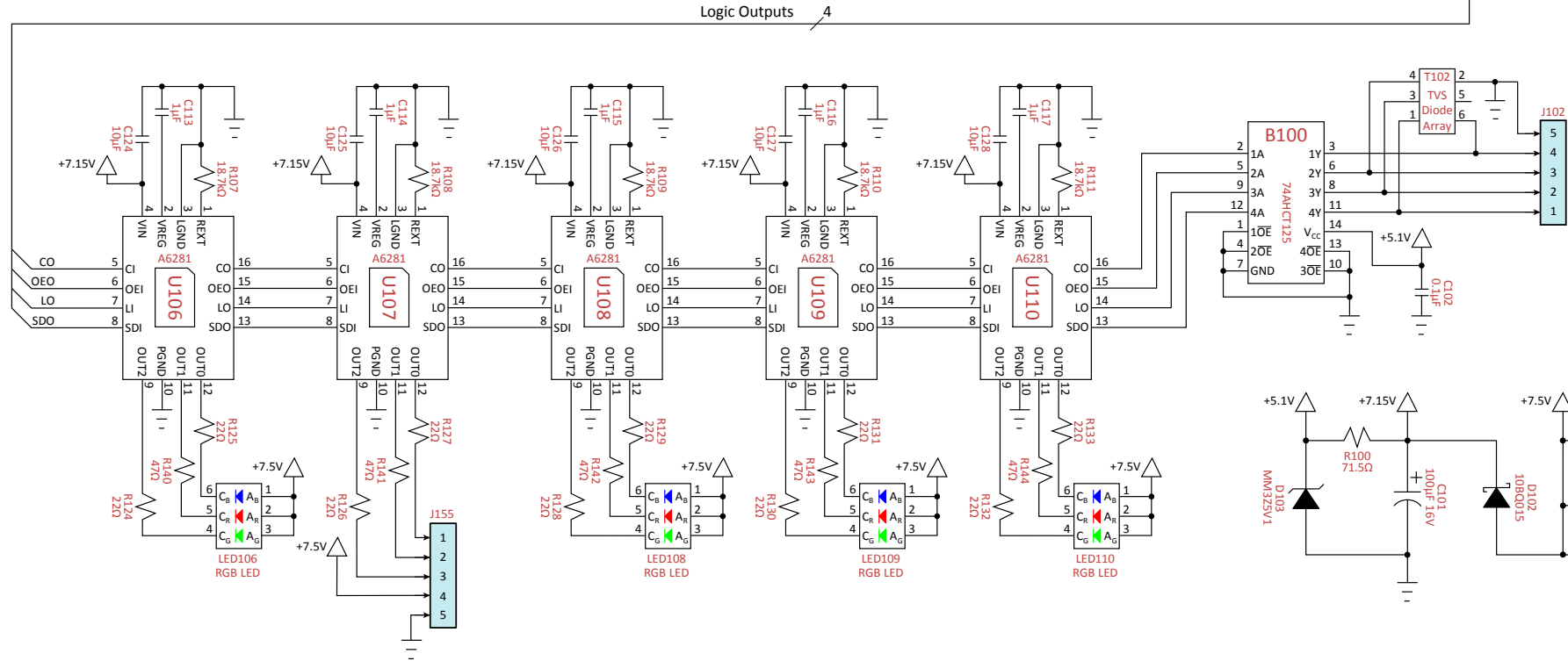
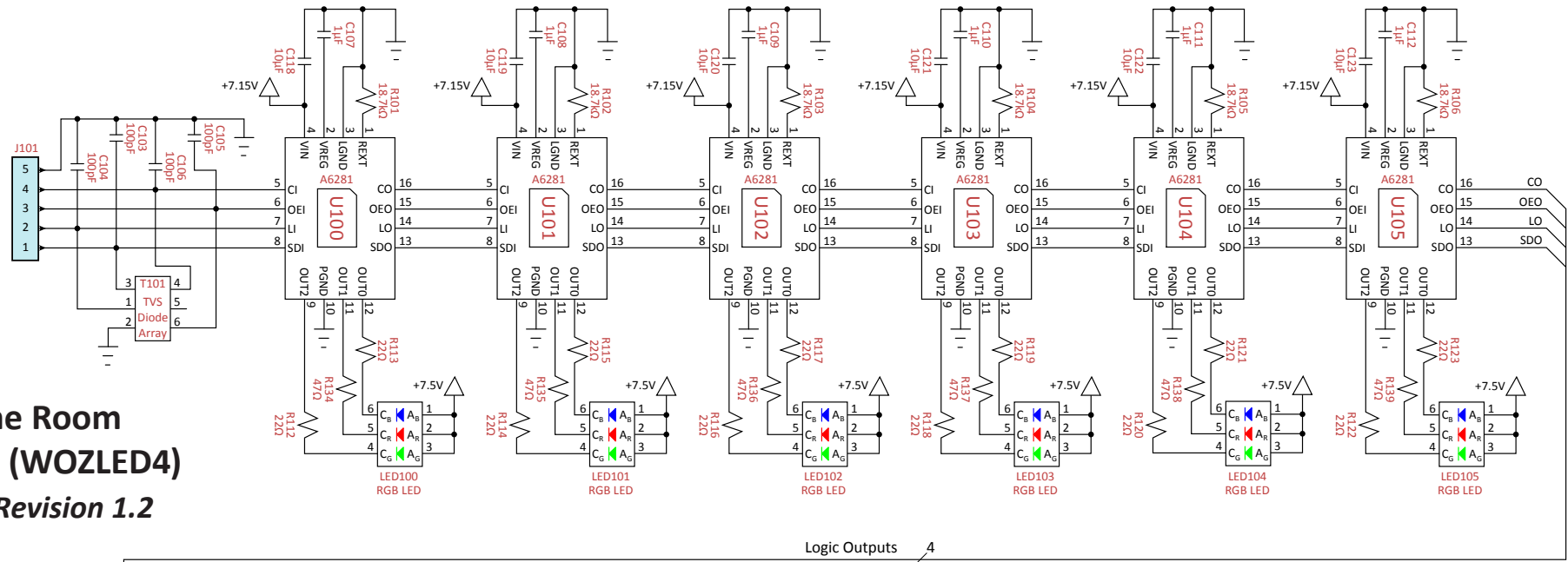
Note: All RGB LED Board connections to J100 pass through an in-line connector mounted in back panel of Cabinet PCB Chassis Assembly.



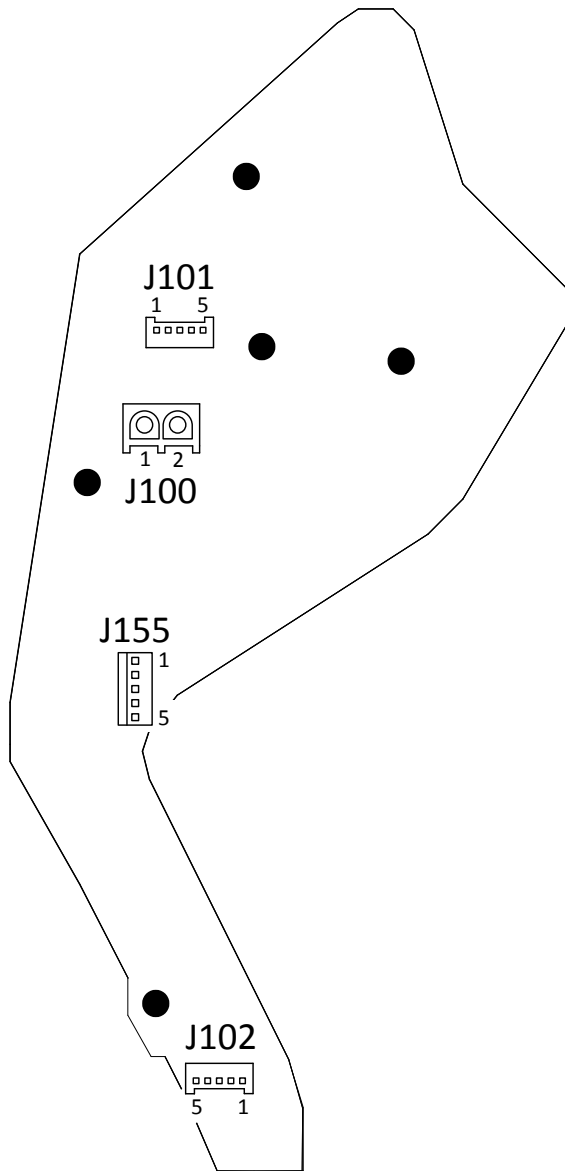
WOZ Throne Room RGB LED Board (WOZLED4)
15-0023-04, Revision 1.2

Component(s)	Part Number	Description
B100	141-0019-0S	Quad Bus Buffer Gates w/3-State Outputs, 74AHCT125, QFN-14 SMT
C100, C101	109-100M-016	Capacitor, Elect (Radial), 100μF, 16V, 20%
C102	103-104K-016	Capacitor, MLCC, 0603 SMT, 0.1μF, 16V, 10%
C103-C106	103-101J-050	Capacitor, MLCC, 0603 SMT, 100pF, 50V, 5%
C107-C117	103-105Z-016	Capacitor, MLCC, 0603 SMT, 1μF, 16V, +80%, -20%
C118-C128	100-106K-00	Capacitor, MLCC, 0805 SMT, 10μF, 16V, 10%
D100	110-0009-0S	Diode, DZ2J100, SMT, Zener, 10V, 200mW
D102	110-0004-0S	Diode, 10BQ015, SMT, Schottky Rectifier, 1A
D103	110-0010-0S	Diode, MM3Z5V1T1, SMT, Zener, 5.1V, 200mW
F100		Not Populated
F101	170-3204-FS	Fuse, Fast, 1206 SMT, 4A, 32V
LED100-LED106, LED108-LED110	24-0016-00	LED, SMT, High-Power RGB, 624/527/470nm
R100	122-71P5-102	Resistor, 0603 SMT, 71.5Ω, 0.1W, 1%
R101-R111	122-18K7-102	Resistor, 0603 SMT, 18.7kΩ, 0.1W, 1%
R112-R133	122-0022-104	Resistor, 0603 SMT, 22Ω, 0.1W, 5%
R134-R144	122-0047-104	Resistor, 0603 SMT, 47Ω, 0.1W, 5%
T101, T102	141-0017-0S	RailClamp TVS Diode Array, RClamp0504F, SC70-6L SMT
U100-U110	140-0001-0S	3-Ch Const Current LED Drvr, A6281, 16-QFN
J100	30-2005-00	Header, Male, 2-pin, 6.35mm
J101, J102	30-2001-00	Header, Male, 5-pin, 2mm
J155	30-2002-00	Header, Male, 5-pin, 2.54mm

WOZ Throne Room
RGB LED Board (WOZLED4)
15-0023-04, Revision 1.2



*Not populated



WOZ Throne Room RGB LED Board (WOZLED4), 15-0023-04
Connector Pin-outs, *Revision 1.2*

J100 Power Input

J100-1	VIO	+7.5VDC from 7.5VDC Power Supply or UPS Board, J4-3
J100-2	BLK	Ground from 7.5VDC Power Supply or UPS Board, J4-6

J101 RGB LED Control

J101-1	BLU	->
J101-2	WHT	-> Control signals from previous RGB LED board,
J101-3	BLU-WHT	-> WOZ Single GI RGB LED Board #26, J102
J101-4	WHT-BLU	->
J101-5	BLK	Ground (cable shield)

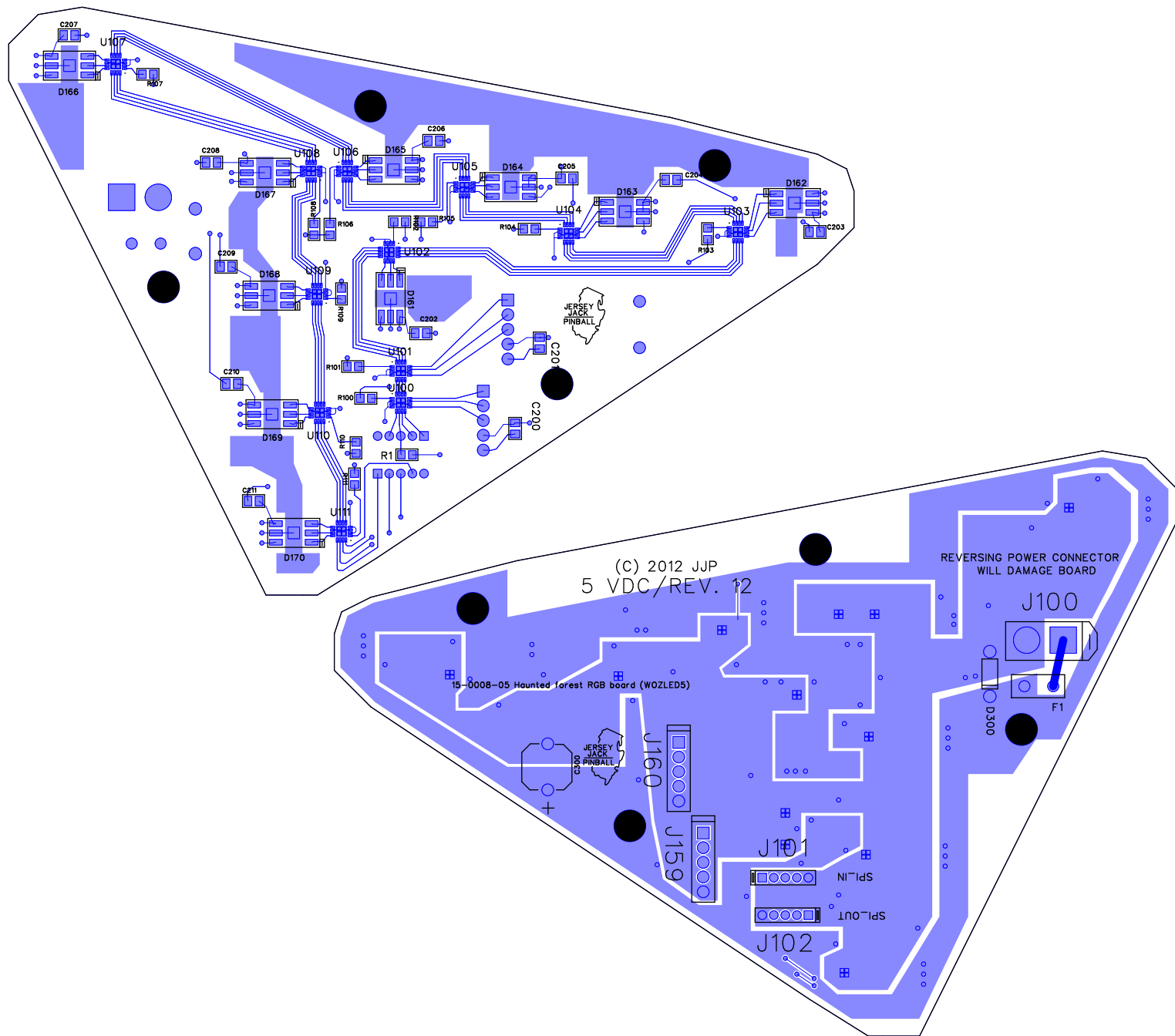
J102 RGB LED Control

J102-1	BLU	->
J102-2	WHT	-> Control signals to next RGB LED board,
J102-3	BLU-WHT	-> WOZ Single GI RGB LED Board #27, J101
J102-4	WHT-BLU	->
J102-5	BLK	Ground (cable shield)

J155 RGB LED Drive

J155-1	BLU	-> Drive signals to WOZ Satellite
J155-2	WHT	-> RGB LED Board #155, J100
J155-3	BLU-WHT	->
J155-4	WHT-BLU	+7.5VDC to satellite RGB LED board
J155-5	BLK	Ground (cable shield)

Note: All RGB LED Board connections to J100 pass through an in-line connector mounted in back panel of Cabinet PCB Chassis Assembly.

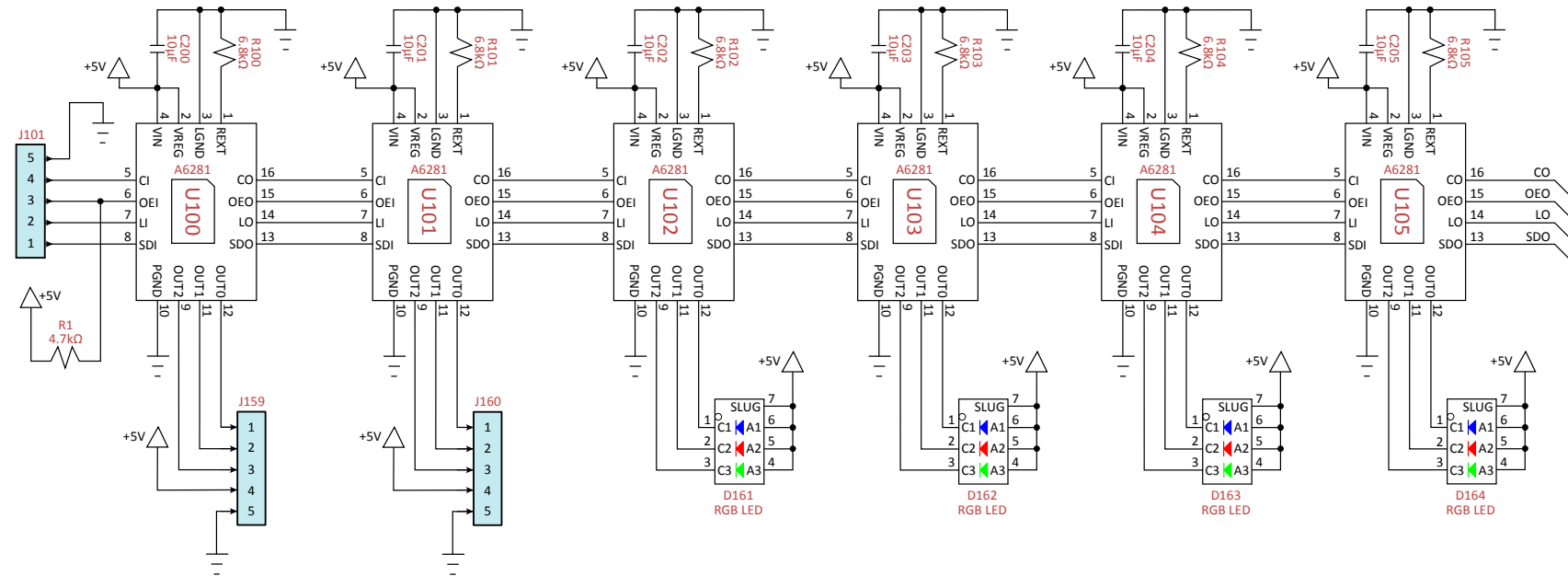


WOZ Haunted Forest RGB LED Board (WOZLED5)

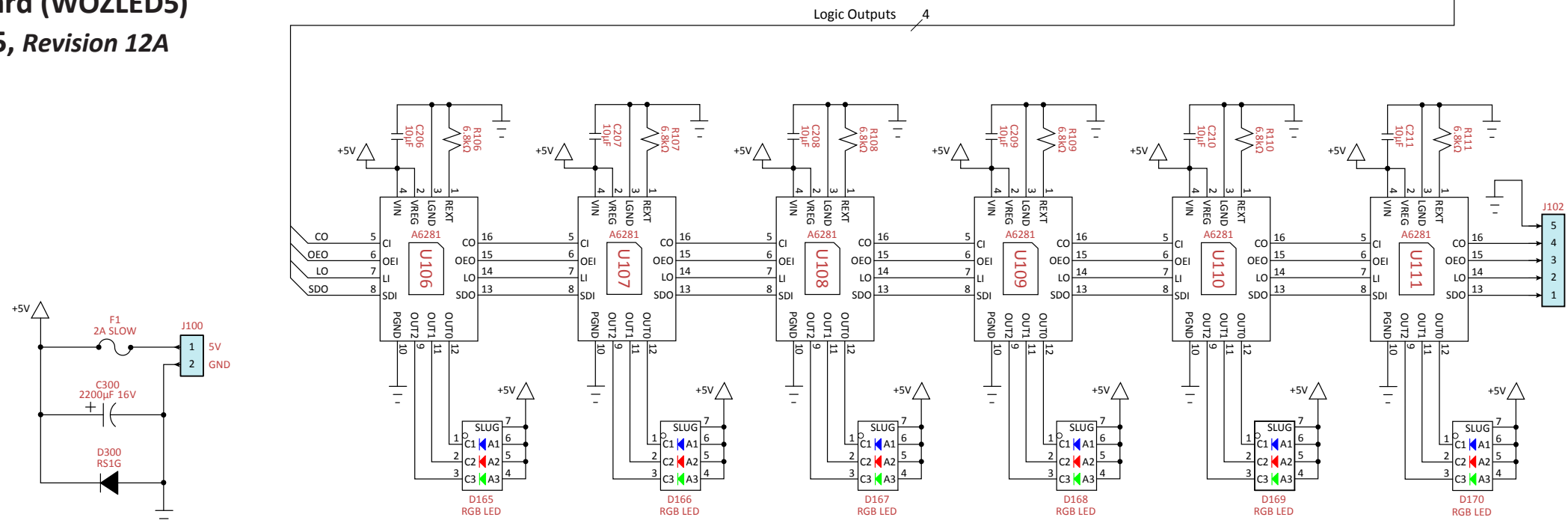
15-0008-05, Revision 12A

(games manufactured before Sep 4, 2013)

Component(s)	Part Number	Description
C200-C211	100-106M-016	Capacitor, MLCC, 0805 SMT, 10 μ F, 16V, 20%
C300	109-2K2M-016	Capacitor, Elect (Radial), 2200 μ F, 16V, 20%
D148-D154, D156-D158	24-0004-00	LED, SMT, High-Power RGB, 624/525/450nm
D300	110-5001-0S	Diode, RS1G, SMT, 400V, 1A, 150ns
F1	170-0302-ST	Fuse, Slow, Radial, Leaded, 2A, 300V
R1	120-04K7-334	Resistor, 0805 SMT, 4.7k Ω , 0.33W, 5%
R100-R111	120-06K8-334	Resistor, 0805 SMT, 6.8k Ω , 0.33W, 5%
U100-U111	140-0001-0S	3-Ch Const Current LED Drvr, A6281, 16-QFN
J100	30-2005-00	Header, Male, 2-pin, 6.35mm
J101, J102	30-2001-00	Header, Male, 5-pin, 2mm
J159, J160	30-2002-00	Header, Male, 5-pin, 2.54mm

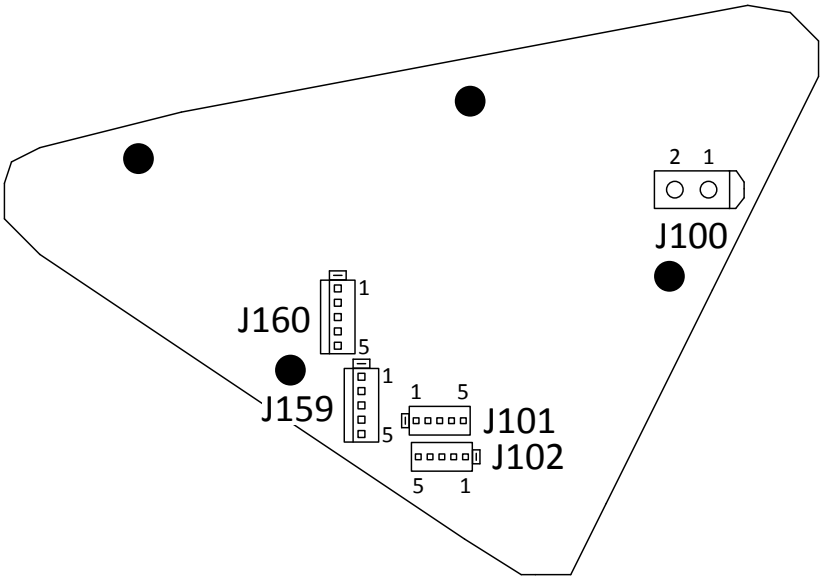


WOZ Haunted Forest
RGB LED Board (WOZLED5)
15-0008-05, Revision 12A



WOZ Haunted Forest RGB LED Board (WOZLED5), 15-0008-05

Connector Pin-outs, Revision 12A



J100 Power Input

J100-1	VIO	+5VDC from 5VDC Power Supply
J100-2	BLK	Ground from 5VDC Power Supply

J101 RGB LED Control

J101-1	BLU	->
J101-2	WHT	-> Control signals from previous RGB LED board,
J101-3	BLU-WHT	-> WOZ Winged Monkey RGB LED Board (WOZLED7), J102
J101-4	WHT-BLU	->
J101-5	BLK	Ground (cable shield)

J102 RGB LED Control

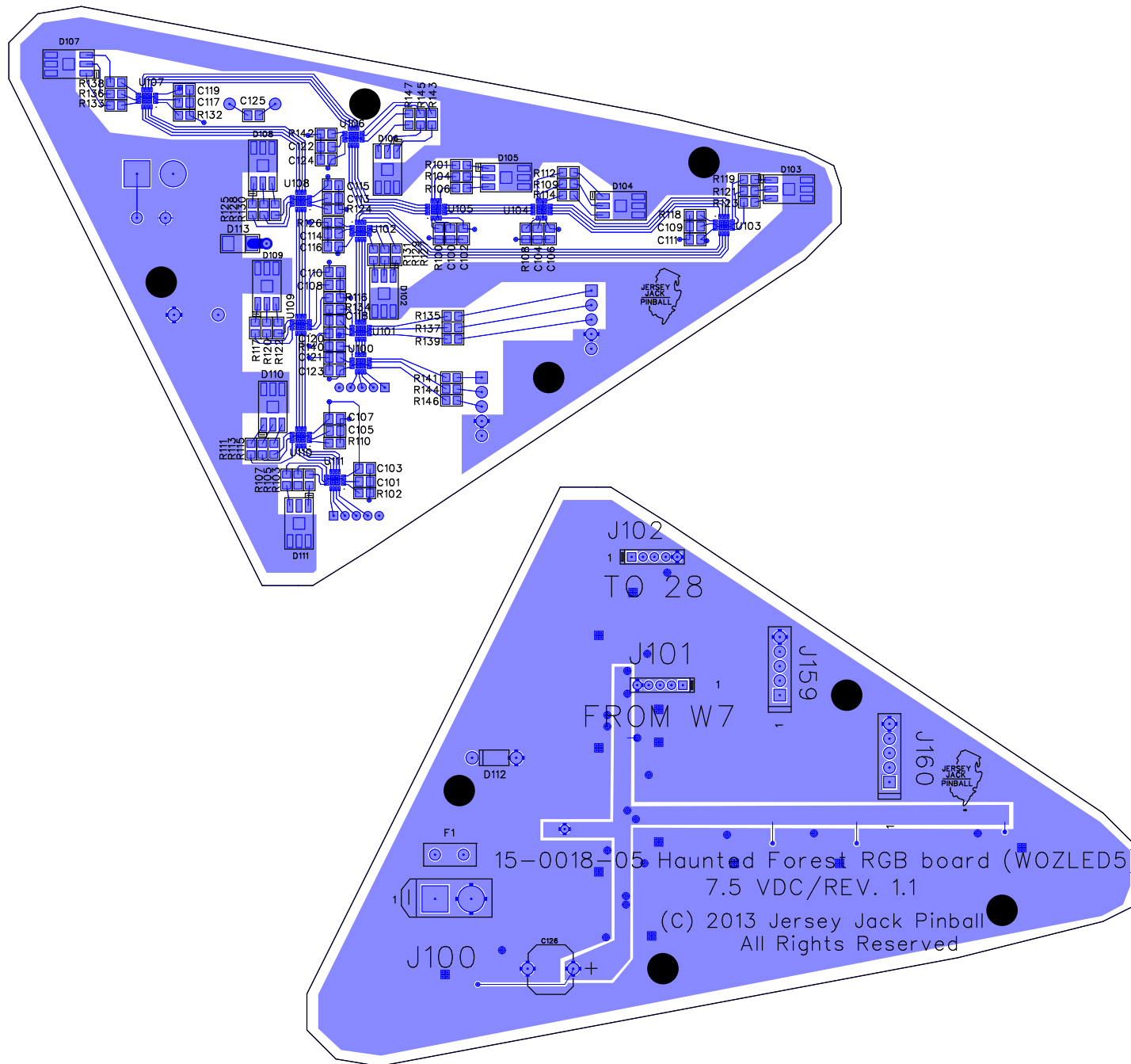
J102-1	BLU	->
J102-2	WHT	-> Control signals to next RGB LED board,
J102-3	BLU-WHT	-> WOZ Single GI RGB LED Board #28, J101
J102-4	WHT-BLU	->
J102-5	BLK	Ground (cable shield)

J159 RGB LED Drive

J159-1	BLU	-> Drive signals to WOZ Satellite
J159-2	WHT	-> RGB LED Board #159, J100
J159-3	BLU-WHT	->
J159-4	WHT-BLU	+5VDC to satellite RGB LED board
J159-5	BLK	Ground (cable shield)

J160 RGB LED Drive

J160-1	BLU	-> Drive signals to WOZ Satellite
J160-2	WHT	-> RGB LED Board #160, J100
J160-3	BLU-WHT	->
J160-4	WHT-BLU	+5VDC to satellite RGB LED board
J160-5	BLK	Ground (cable shield)



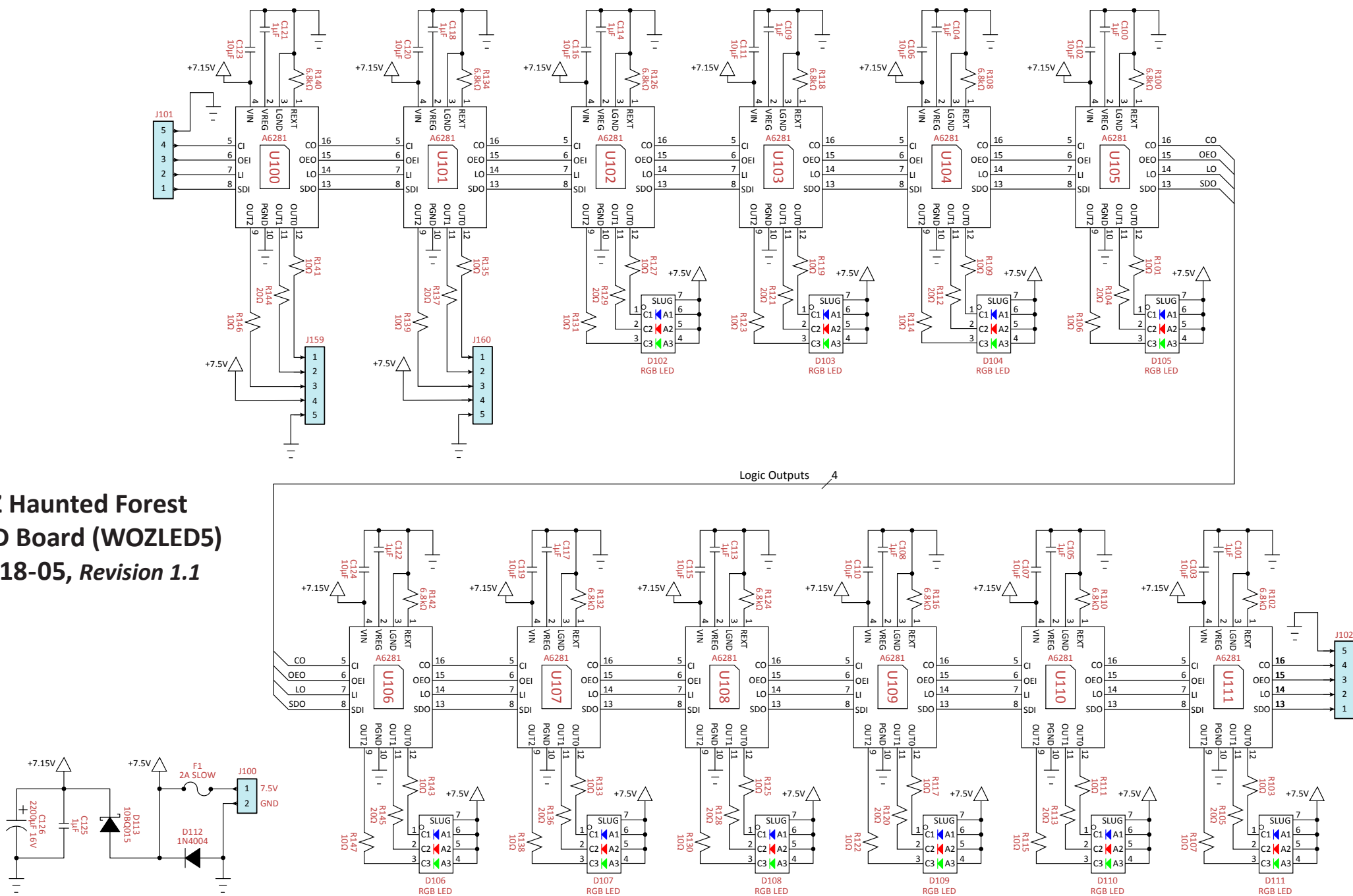
WOZ Haunted Forest RGB LED Board (WOZLED5)

15-0018-05, Revision 1.1

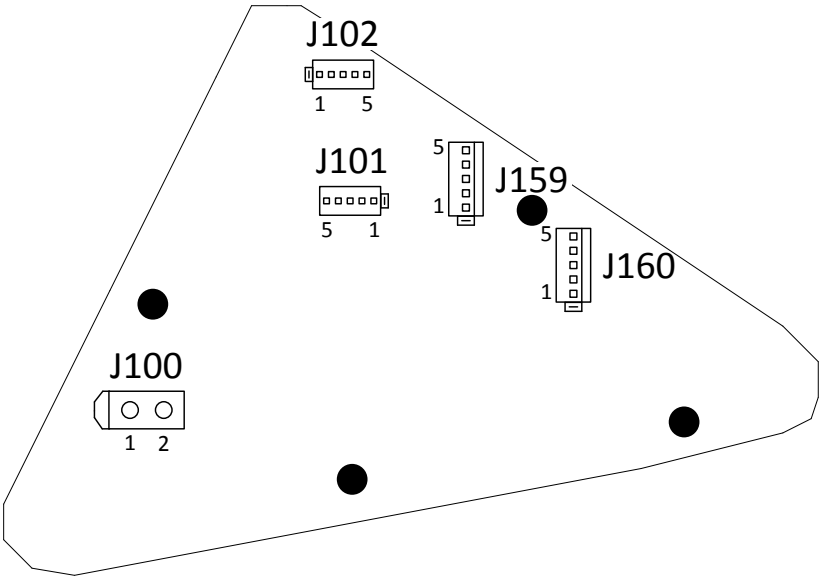
(games manufactured on/after Sep 4, 2013)

Component(s)	Part Number	Description
C100, C101, C104, C105, C108, C109, C113, C114, C117, C118, C121, C122, C125	100-105K-016	Capacitor, MLCC, 0805 SMT, 1μF, 16V, 10%
C102, C103, C106, C107, C110, C111, C115, C116, C119, C120, C123, C124	100-106M-016	Capacitor, MLCC, 0805 SMT, 10μF, 16V, 20%
C126	109-2K2M-016	Capacitor, Elect (Radial), 2200μF, 16V, 20%
D102-D111	24-0004-00	LED, SMT, High-Power RGB, 624/525/450nm
D112	110-0002-0T	Diode, 1N4004, 400V, 1A
D113	110-0004-0S	Diode, 10BQ015, SMT, Schottky Rectifier, 1A
F1	170-0302-ST	Fuse, Slow, Radial, Leaded, 2A, 300V
R100, R102, R108, R110, R116, R118, R124, R126, R132, R134, R140, R142	120-06K8-334	Resistor, 0805 SMT, 6.8kΩ, 0.33W, 5%
R101, R103, R106, R107, R109, R111, R114, R115, R117, R119, R122, R123, R125, R127, R130, R131, R133, R135, R138, R139, R141, R143, R146, R147	120-0010-254	Resistor, 0805 SMT, 10Ω, 0.25W, 5%
R104, R105, R112, R113, R120, R121, R128, R129, R136, R137, R144, R145	120-0020-254	Resistor, 0805 SMT, 20Ω, 0.25W, 5%
U100-U111	140-0001-0S	3-Ch Const Current LED Drvr, A6281, 16-QFN
J100	30-2005-00	Header, Male, 2-pin, 6.35mm
J101, J102	30-2001-00	Header, Male, 5-pin, 2mm
J159, J160	30-2002-00	Header, Male, 5-pin, 2.54mm

WOZ Haunted Forest
RGB LED Board (WOZLED5)
15-0018-05, Revision 1.1



WOZ Haunted Forest RGB LED Board (WOZLED5), 15-0018-05
Connector Pin-outs, *Revision 1.1*



J100 Power Input

J100-1	VIO	+7.5VDC from 7.5VDC Power Supply or UPS Board, J4-2
J100-2	BLK	Ground from 7.5VDC Power Supply or UPS Board, J4-5

J101 RGB LED Control

J101-1	BLU	->
J101-2	WHT	-> Control signals from previous RGB LED board,
J101-3	BLU-WHT	-> WOZ Winged Monkey RGB LED Board (WOZLED7), J102
J101-4	WHT-BLU	->
J101-5	BLK	Ground (cable shield)

J102 RGB LED Control

J102-1	BLU	->
J102-2	WHT	-> Control signals to next RGB LED board,
J102-3	BLU-WHT	-> WOZ Single GI RGB LED Board #28, J101
J102-4	WHT-BLU	->
J102-5	BLK	Ground (cable shield)

J159 RGB LED Drive

J159-1	BLU	-> Drive signals to WOZ Satellite
J159-2	WHT	-> RGB LED Board #159, J100
J159-3	BLU-WHT	->
J159-4	WHT-BLU	+7.5VDC to satellite RGB LED board
J159-5	BLK	Ground (cable shield)

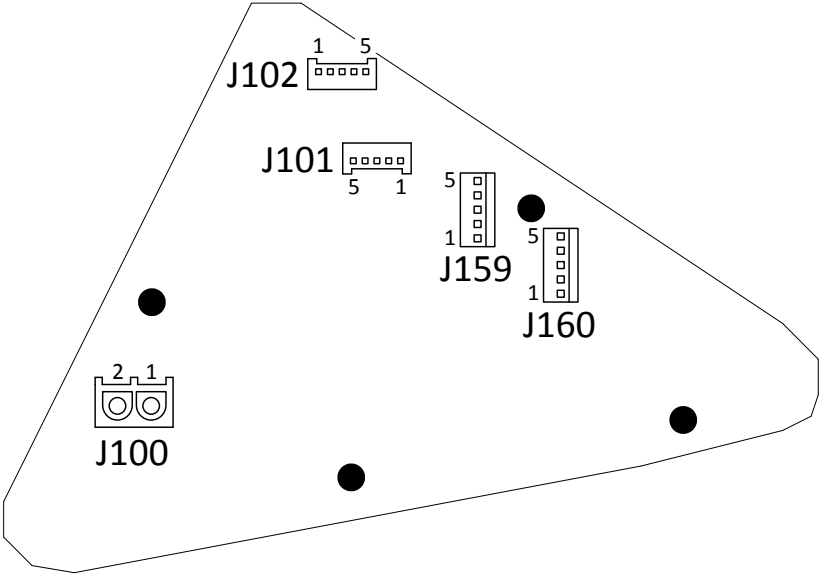
J160 RGB LED Drive

J160-1	BLU	-> Drive signals to WOZ Satellite
J160-2	WHT	-> RGB LED Board #160, J100
J160-3	BLU-WHT	->
J160-4	WHT-BLU	+7.5VDC to satellite RGB LED board
J160-5	BLK	Ground (cable shield)

Note: All RGB LED Board connections to J100 pass through an in-line connector mounted in back panel of Cabinet PCB Chassis Assembly.

WOZ Haunted Forest RGB LED Board (WOZLED5), 15-0023-05

Connector Pin-outs, *Revision 1.2*



J100 Power Input

J100-1	VIO	+7.5VDC from 7.5VDC Power Supply or UPS Board, J4-2
J100-2	BLK	Ground from 7.5VDC Power Supply or UPS Board, J4-5

J101 RGB LED Control

J101-1	BLU	->
J101-2	WHT	-> Control signals from previous RGB LED board,
J101-3	BLU-WHT	-> WOZ Winged Monkey RGB LED Board (WOZLED7), J102
J101-4	WHT-BLU	->
J101-5	BLK	Ground (cable shield)

J102 RGB LED Control

J102-1	BLU	->
J102-2	WHT	-> Control signals to next RGB LED board,
J102-3	BLU-WHT	-> WOZ Single GI RGB LED Board #28, J101
J102-4	WHT-BLU	->
J102-5	BLK	Ground (cable shield)

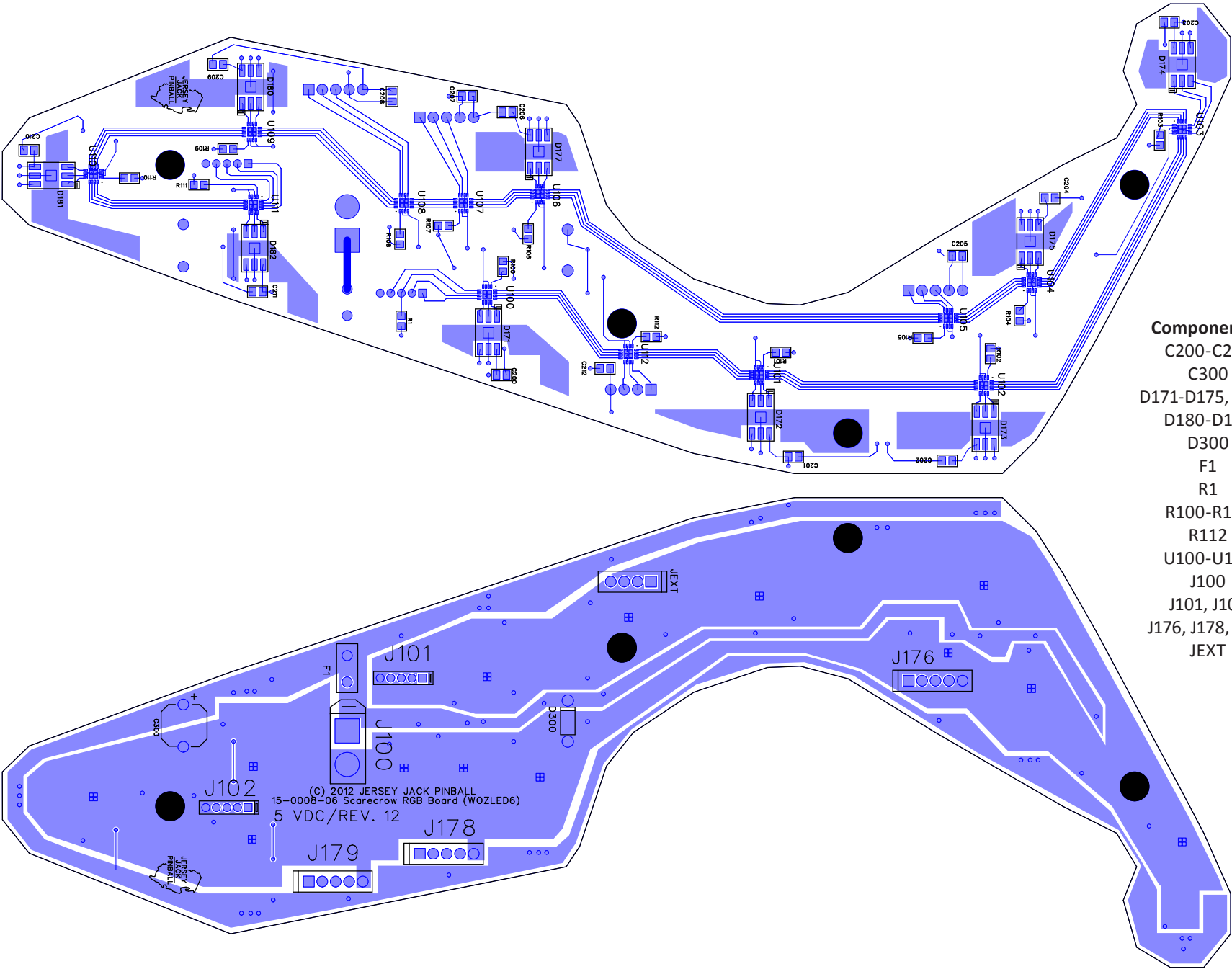
J159 RGB LED Drive

J159-1	BLU	-> Drive signals to WOZ Satellite
J159-2	WHT	-> RGB LED Board #159, J100
J159-3	BLU-WHT	->
J159-4	WHT-BLU	+7.5VDC to satellite RGB LED board
J159-5	BLK	Ground (cable shield)

J160 RGB LED Drive

J160-1	BLU	-> Drive signals to WOZ Satellite
J160-2	WHT	-> RGB LED Board #160, J100
J160-3	BLU-WHT	->
J160-4	WHT-BLU	+7.5VDC to satellite RGB LED board
J160-5	BLK	Ground (cable shield)

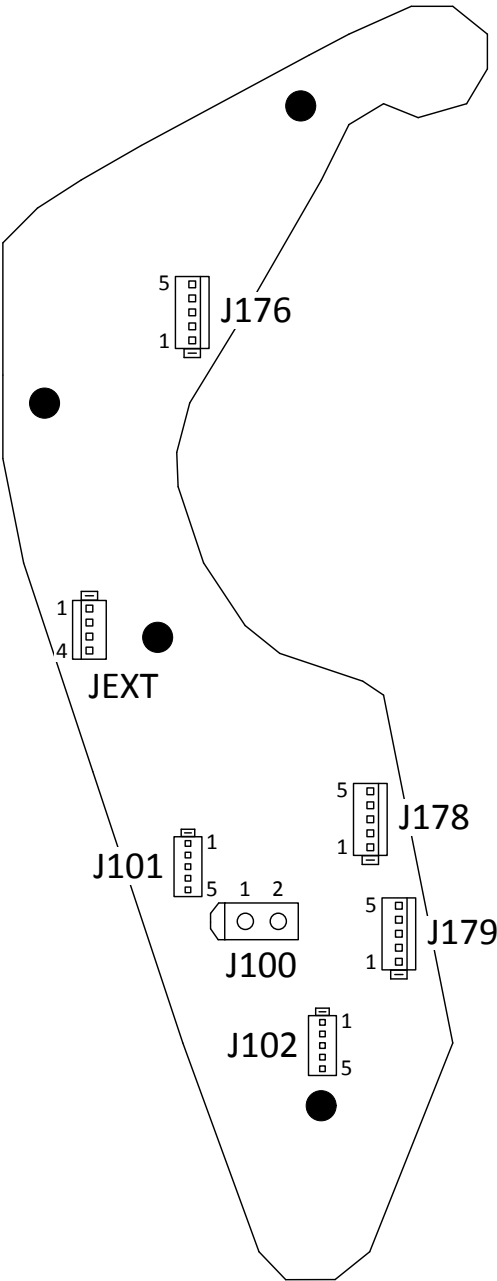
Note: All RGB LED Board connections to J100 pass through an in-line connector mounted in back panel of Cabinet PCB Chassis Assembly.



**WOZ Scarecrow
RGB LED Board (WOZLED6)
15-0008-06, Revision 12B
(games manufactured before Sep 4, 2013)**

Component(s)	Part Number	Description
C200-C212	100-106M-016	Capacitor, MLCC, 0805 SMT, 10μF, 16V, 20%
C300	109-2K2M-016	Capacitor, Elect (Radial), 2200μF, 16V, 20%
D171-D175, D177, D180-D182	24-0004-00	LED, SMT, High-Power RGB, 624/525/450nm
D300	110-5001-0S	Diode, RS1G, SMT, 400V, 1A, 150ns
F1	170-0302-ST	Fuse, Slow, Radial, Leaded, 2A, 300V
R1	120-04K7-334	Resistor, 0805 SMT, 4.7kΩ, 0.33W, 5%
R100-R111	120-06K8-334	Resistor, 0805 SMT, 6.8kΩ, 0.33W, 5%
R112	120-38K3-332	Resistor, 0805 SMT, 38.3kΩ, 0.33W, 1%
U100-U112	140-0001-0S	3-Ch Const Current LED Drvr, A6281, 16-QFN
J100	30-2005-00	Header, Male, 2-pin, 6.35mm
J101, J102	30-2001-00	Header, Male, 5-pin, 2mm
J176, J178, J179	30-2002-00	Header, Male, 5-pin, 2.54mm
JEXT	30-2003-00	Header, Male, 4-pin, 2.54mm

WOZ Scarecrow RGB LED Board (WOZLED6), 15-0008-06
Connector Pin-outs, Revision 12B



J100 Power Input

J100-1	VIO	+5VDC from 5VDC Power Supply
J100-2	BLK	Ground from 5VDC Power Supply

J101 RGB LED Control

J101-1	BLU	->
J101-2	WHT	-> Control signals from I/O Board, J802
J101-3	BLU-WHT	->
J101-4	WHT-BLU	->
J101-5	BLK	Ground (cable shield)

J102 RGB LED Control

J102-1	BLU	->
J102-2	WHT	-> Control signals to next RGB LED board,
J102-3	BLU-WHT	-> WOZ Single GI RGB LED Board #29, J101
J102-4	WHT-BLU	->
J102-5	BLK	Ground (cable shield)

J176 RGB LED Drive

J176-1	BLU	-> Drive signals to WOZ Satellite
J176-2	WHT	-> RGB LED Board #176, J100
J176-3	BLU-WHT	->
J176-4	WHT-BLU	+5VDC to satellite RGB LED board
J176-5	BLK	Ground (cable shield)

J178 RGB LED Drive

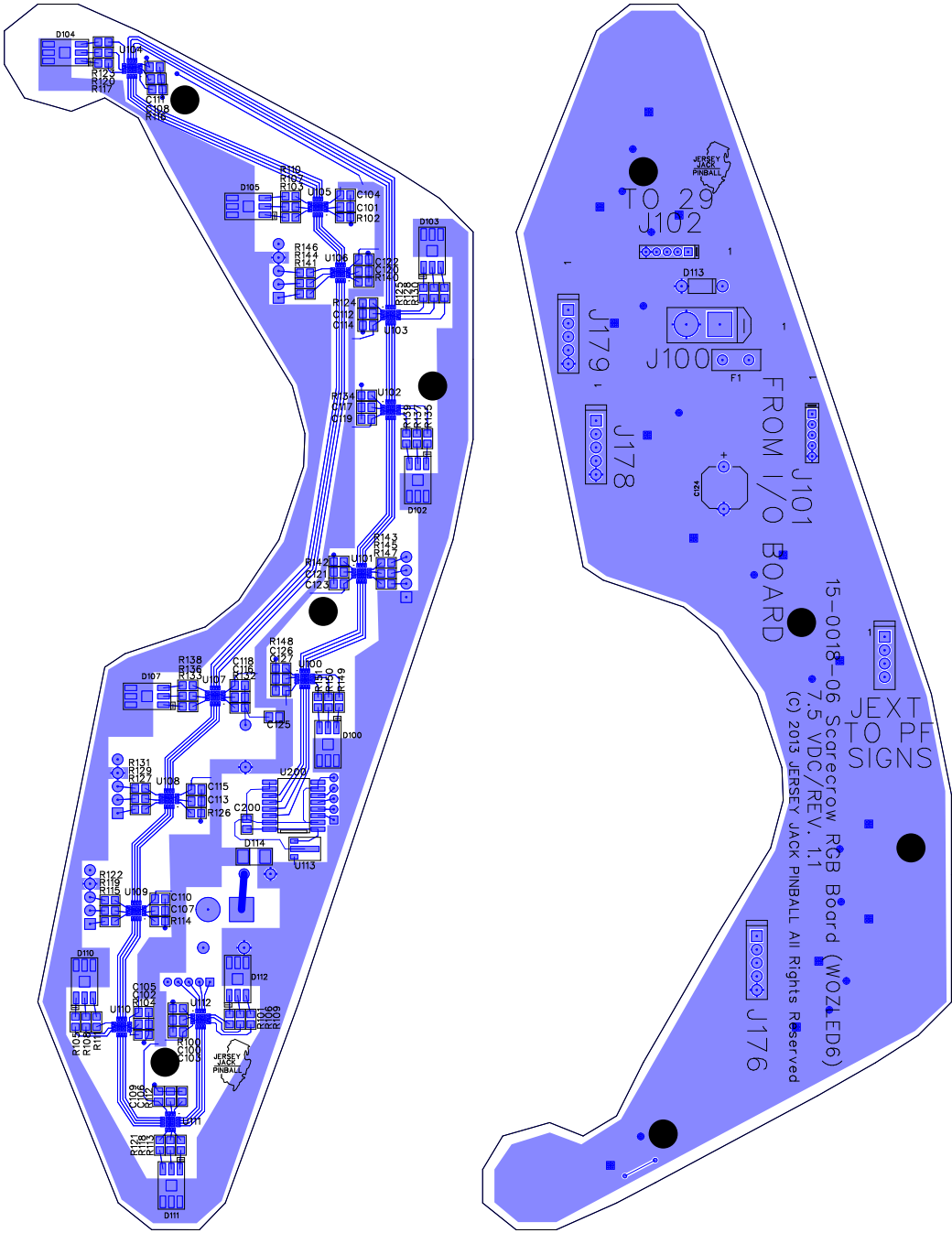
J178-1	BLU	-> Drive signals to WOZ 1-Bank Drop
J178-2	WHT	-> Target Satellite RGB LED Board #178, J100
J178-3	BLU-WHT	->
J178-4	WHT-BLU	+5VDC to drop target satellite RGB LED board
J178-5	BLK	Ground (cable shield)

J179 RGB LED Drive

J179-1	BLU	-> Drive signals to WOZ Satellite
J179-2	WHT	-> RGB LED Board #179, J100
J179-3	BLU-WHT	->
J179-4	WHT-BLU	+5VDC to satellite RGB LED board
J179-5	BLK	Ground (cable shield)

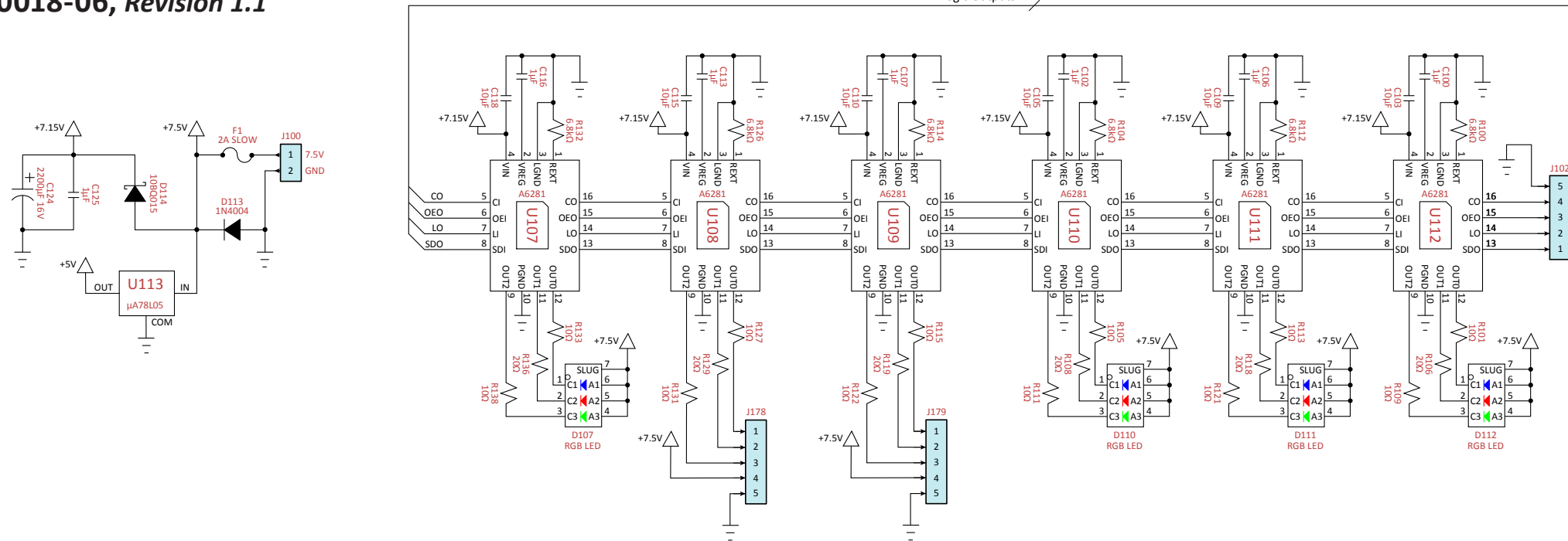
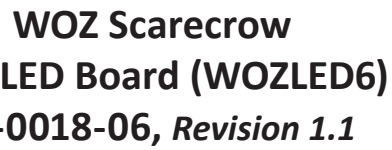
JEXT LED Drive

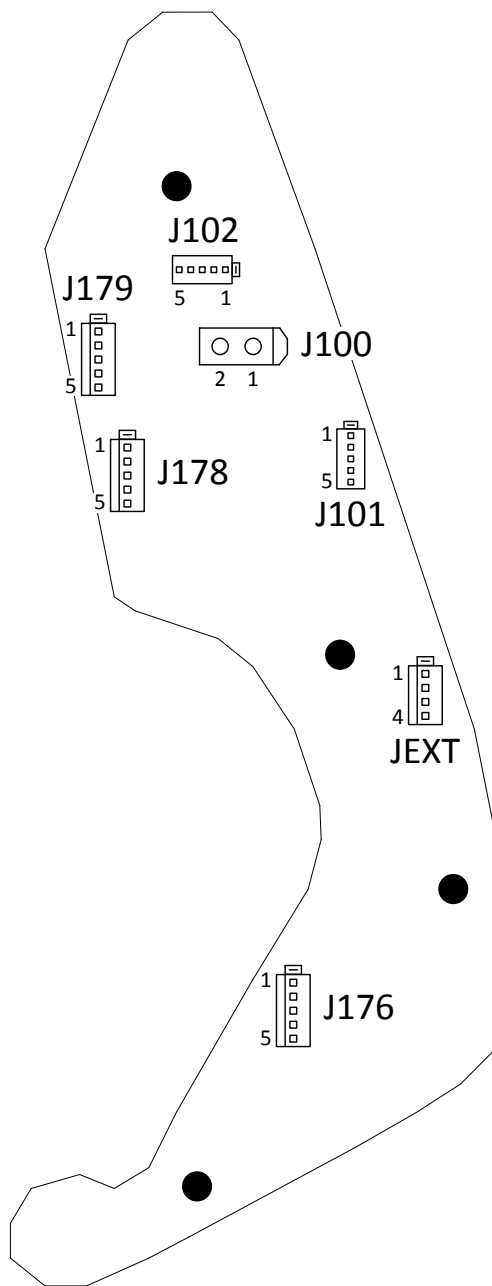
JEXT-1	YEL-WHT	Drive signal to BLK wire of LED in Haunted Forest sign
JEXT-2	GRN-WHT	Drive signal to BLK wire of "Z" LED in OZ Lanes sign
JEXT-3	BLU-WHT	Drive signal to BLK wire of "O" LED in OZ Lanes sign
JEXT-4	RED	+5VDC to RED wire of each LED above



WOZ Scarecrow RGB LED Board (WOZLED6)
15-0018-06, Revision 1.1
(games manufactured on/after Sep 4, 2013)

Component(s)	Part Number	Description
C100-C102, C106-C108, C112, C113, C116, C117, C120, C121, C125, C126 C103-C105, C109-C111, C114, C115, C118, C119, C122, C123, C127	100-105K-016	Capacitor, MLCC, 0805 SMT, 1μF, 16V, 10%
C124	100-106M-016	Capacitor, MLCC, 0805 SMT, 10μF, 16V, 20%
C200	109-2K2M-016	Capacitor, Elect (Radial), 2200μF, 16V, 20%
D100, D102-D105, D107, D110-D112	100-104K-016	Capacitor, MLCC, 0805 SMT, 0.1μF, 16V, 10%
D113	24-0004-00	LED, SMT, High-Power RGB, 624/525/450nm
D114	110-0002-0T	Diode, 1N4004, 400V, 1A
F1	110-0004-0S	Diode, 10BQ015, SMT, Schottky Rectifier, 1A
R100, R102, R104, R112, R114, R116, R124, R126, R132, R134, R140, R148	170-0302-ST	Fuse, Slow, Radial, Leaded, 2A, 300V
R101, R103, R105, R109-R111, R113, R115, R117, R121-R123, R125, R127, R130, R131, R133, R135, R138, R139, R141, R146, R149, R151	120-06K8-334	Resistor, 0805 SMT, 6.8kΩ, 0.33W, 5%
R106-R108, R118-R120, R128, R129, R136, R137, R144, R150	120-0010-254	Resistor, 0805 SMT, 10Ω, 0.25W, 5%
R142	120-0020-254	Resistor, 0805 SMT, 20Ω, 0.25W, 5%
R143, R145, R147	120-27K0-134	Resistor, 0805 SMT, 27kΩ, 0.125W, 5%
U100-U112	120-0100-134	Resistor, 0805 SMT, 100Ω, 0.125W, 5%
U113	140-0001-0S	3-Ch Const Current LED Dvr, A6281, 16-QFN
U200	142-0004-0S	Voltage Regulator, SOT-89 SMT, 5V, 100mA
J100	141-0016-0S	High Speed Quad Digital Isolators, ISO7240CF, SOIC-16 SMT
J101, J102	30-2005-00	Header, Male, 2-pin, 6.35mm
J176, J178, J179	30-2001-00	Header, Male, 5-pin, 2mm
JEXT	30-2002-00	Header, Male, 5-pin, 2.54mm
	30-2003-00	Header, Male, 4-pin, 2.54mm





WOZ Scarecrow RGB LED Board (WOZLED6), 15-0018-06

Connector Pin-outs, *Revision 1.1*

J100 Power Input

J100-1	VIO	+7.5VDC from 7.5VDC Power Supply or UPS Board, J4-1
J100-2	BLK	Ground from 7.5VDC Power Supply or UPS Board, J4-4

J101 RGB LED Control

J101-1	BLU	->
J101-2	WHT	-> Control signals from I/O Board, J802
J101-3	BLU-WHT	->
J101-4	WHT-BLU	->
J101-5	BLK	Ground (cable shield)

J102 RGB LED Control

J102-1	BLU	->
J102-2	WHT	-> Control signals to next RGB LED board,
J102-3	BLU-WHT	-> WOZ Single GI RGB LED Board #29, J101
J102-4	WHT-BLU	->
J102-5	BLK	Ground (cable shield)

J176 RGB LED Drive

J176-1	BLU	-> Drive signals to WOZ Satellite
J176-2	WHT	-> RGB LED Board #176, J100
J176-3	BLU-WHT	->
J176-4	WHT-BLU	+7.5VDC to satellite RGB LED board
J176-5	BLK	Ground (cable shield)

J178 RGB LED Drive

J178-1	BLU	-> Drive signals to WOZ 1-Bank Drop
J178-2	WHT	-> Target Satellite RGB LED Board #178, J100
J178-3	BLU-WHT	->
J178-4	WHT-BLU	+7.5VDC to drop target satellite RGB LED board
J178-5	BLK	Ground (cable shield)

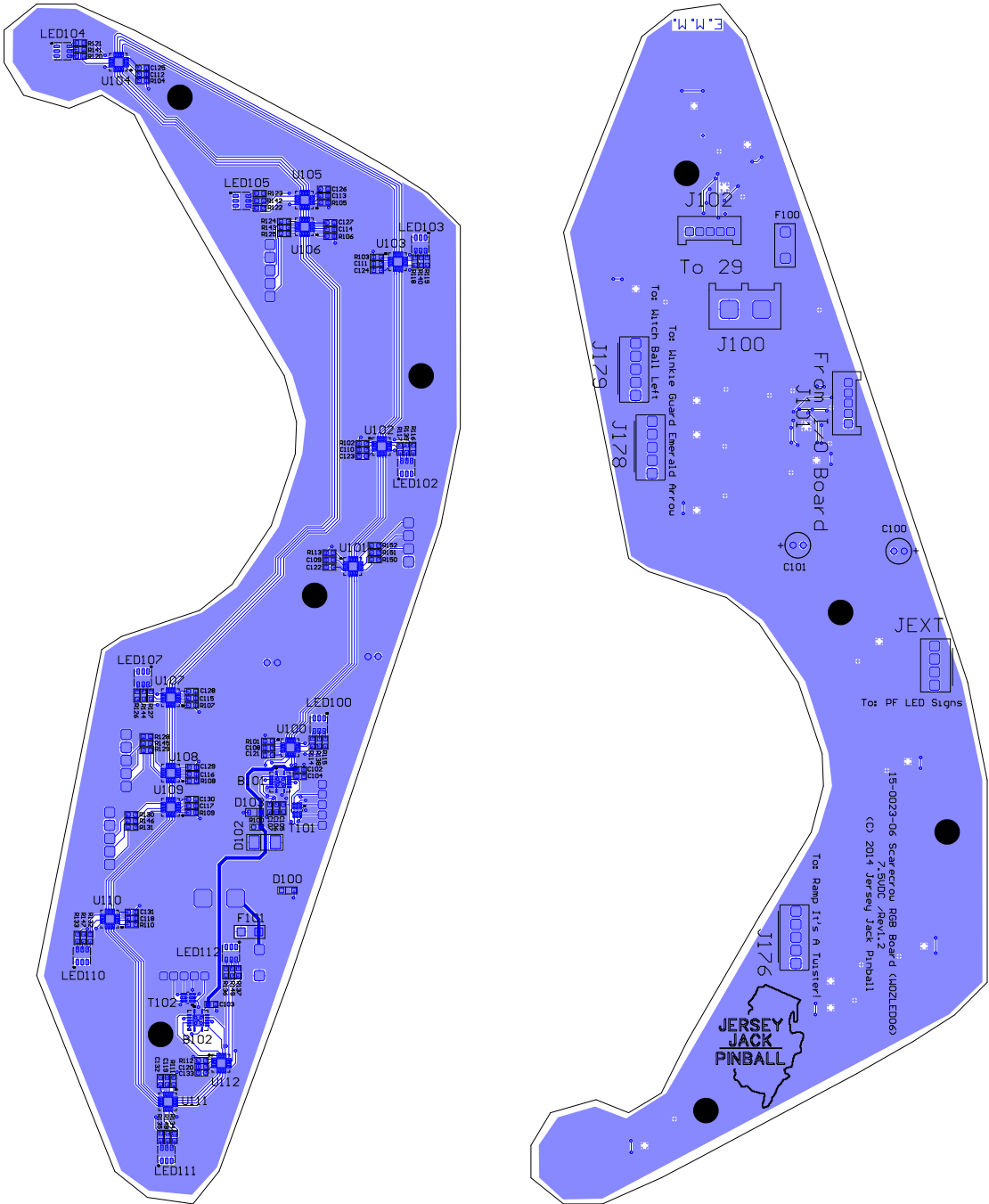
J179 RGB LED Drive

J179-1	BLU	-> Drive signals to WOZ Satellite
J179-2	WHT	-> RGB LED Board #179, J100
J179-3	BLU-WHT	->
J179-4	WHT-BLU	+7.5VDC to satellite RGB LED board
J179-5	BLK	Ground (cable shield)

JEXT LED Drive

JEXT-1	RED	+7.5VDC to RED wire of each LED above
JEXT-2	BLU-WHT	Drive signal to BLK wire of "O" LED in OZ Lanes sign
JEXT-3	GRN-WHT	Drive signal to BLK wire of "Z" LED in OZ Lanes sign
JEXT-4	YEL-WHT	Drive signal to BLK wire of LED in Haunted Forest sign

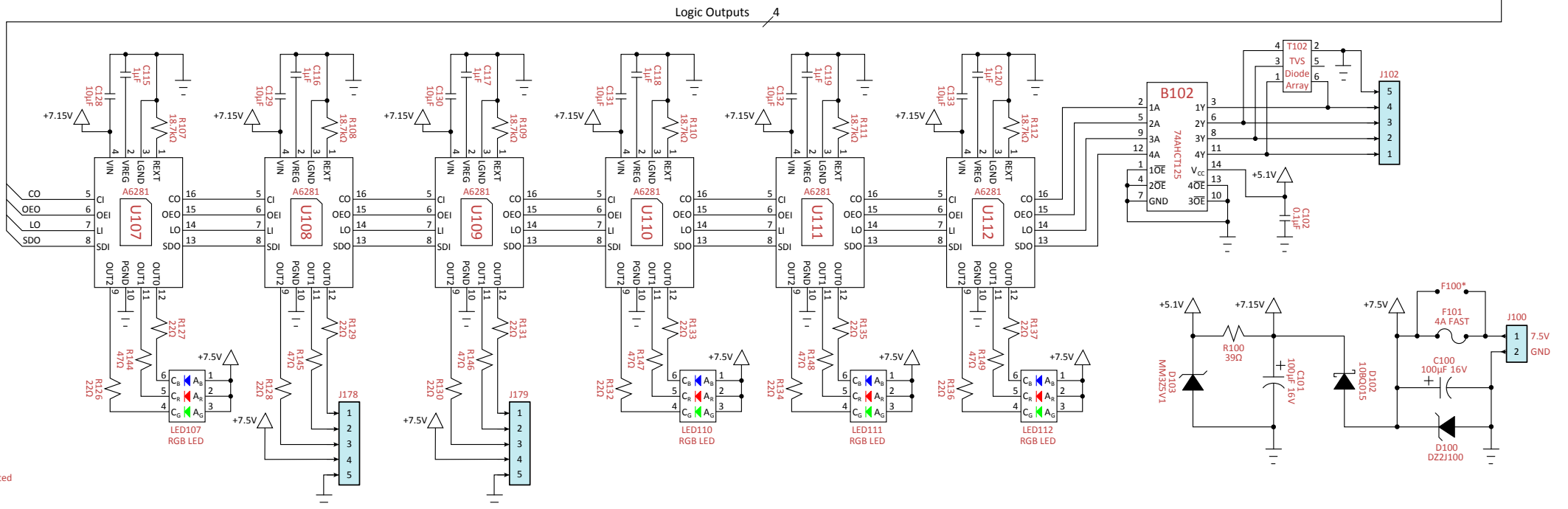
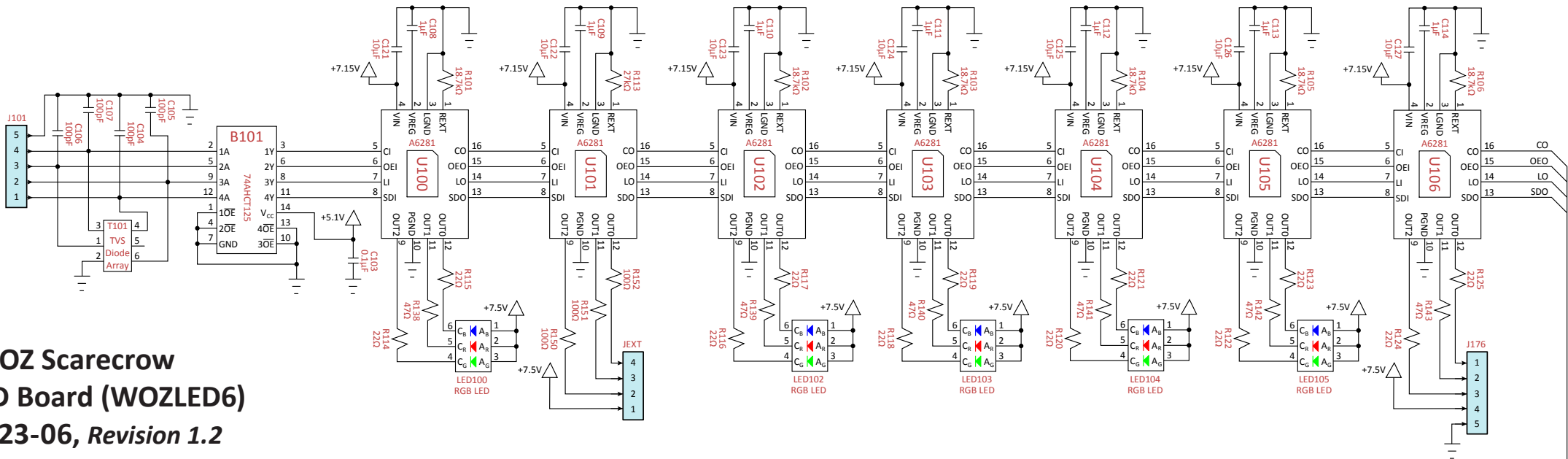
Note: All RGB LED Board connections to J100 pass through an in-line connector mounted in back panel of Cabinet PCB Chassis Assembly.



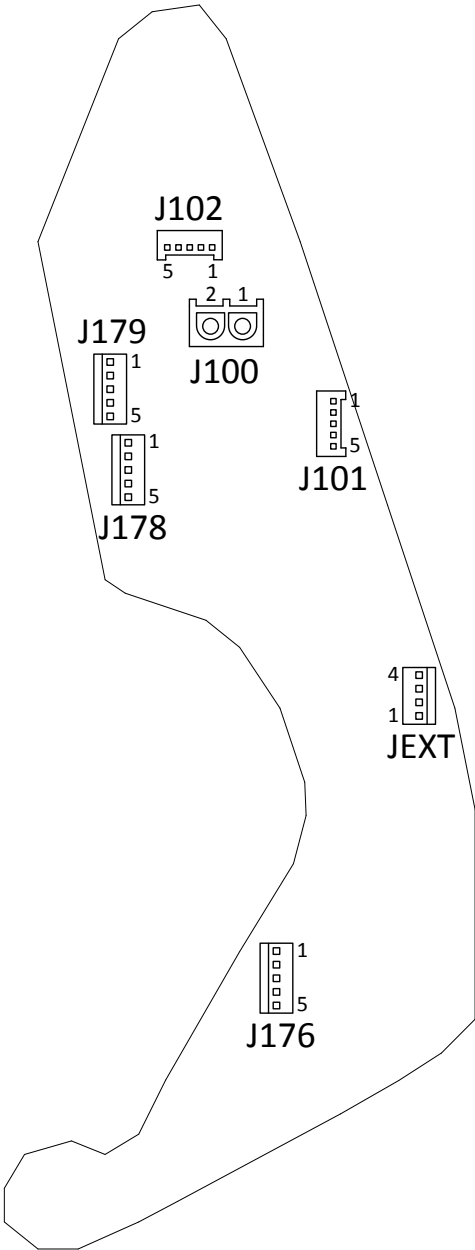
WOZ Scarecrow RGB LED Board (WOZLED6)
15-0023-06, Revision 1.2

Component(s)	Part Number	Description
B101, B102	141-0019-0S	Quad Bus Buffer Gates w/3-State Outputs, 74AHCT125, QFN-14 SMT
C100, C101	109-100M-016	Capacitor, Elect (Radial), 100µF, 16V, 20%
C102, C103	103-104K-016	Capacitor, MLCC, 0603 SMT, 0.1µF, 16V, 10%
C104-C107	103-101J-050	Capacitor, MLCC, 0603 SMT, 100pF, 50V, 5%
C108-C120	103-105Z-016	Capacitor, MLCC, 0603 SMT, 1µF, 16V, +80%, -20%
C121-C133	100-106K-00	Capacitor, MLCC, 0805 SMT, 10µF, 16V, 10%
D100	110-0009-0S	Diode, DZ2J100, SMT, Zener, 10V, 200mW
D102	110-0004-0S	Diode, 10BQ015, SMT, Schottky Rectifier, 1A
D103	110-0010-0S	Diode, MM3Z5V1T1, SMT, Zener, 5.1V, 200mW
F100		Not Populated
F101	170-3204-FS	Fuse, Fast, 1206 SMT, 4A, 32V
LED100, LED102-LED105, LED107, LED110-LED112	24-0016-00	LED, SMT, High-Power RGB, 624/527/470nm
R100	122-0039-202	Resistor, 0603 SMT, 39Ω, 0.2W, 1%
R101-R112	122-18K7-102	Resistor, 0603 SMT, 18.7kΩ, 0.1W, 1%
R113	122-27K0-122	Resistor, 0603 SMT, 27kΩ, 0.125W, 1%
R114-R137	122-0022-104	Resistor, 0603 SMT, 22Ω, 0.1W, 5%
R138-R149	122-0047-104	Resistor, 0603 SMT, 47Ω, 0.1W, 5%
R150-R152	122-0100-122	Resistor, 0603 SMT, 100Ω, 0.125W, 1%
T101, T102	141-0017-0S	RailClamp TVS Diode Array, RClamp0504F, SC70-6L SMT
U100-U112	140-0001-0S	3-Ch Const Current LED Drvr, A6281, 16-QFN
J100	30-2005-00	Header, Male, 2-pin, 6.35mm
J101, J102	30-2001-00	Header, Male, 5-pin, 2mm
J176, J178, J179	30-2002-00	Header, Male, 5-pin, 2.54mm
JEXT	30-2003-00	Header, Male, 4-pin, 2.54mm

WOZ Scarecrow
RGB LED Board (WOZLED6)
15-0023-06, Revision 1.2



*Not populated



WOZ Scarecrow RGB LED Board (WOZLED6), 15-0023-06

Connector Pin-outs, Revision 1.2

J100 Power Input

J100-1	VIO	+7.5VDC from 7.5VDC Power Supply or UPS Board, J4-1
J100-2	BLK	Ground from 7.5VDC Power Supply or UPS Board, J4-4

J101 RGB LED Control

J101-1	BLU	->
J101-2	WHT	-> Control signals from I/O Board, J802
J101-3	BLU-WHT	->
J101-4	WHT-BLU	->
J101-5	BLK	Ground (cable shield)

J102 RGB LED Control

J102-1	BLU	->
J102-2	WHT	-> Control signals to next RGB LED board,
J102-3	BLU-WHT	-> WOZ Single GI RGB LED Board #29, J101
J102-4	WHT-BLU	->
J102-5	BLK	Ground (cable shield)

J176 RGB LED Drive

J176-1	BLU	-> Drive signals to WOZ Satellite
J176-2	WHT	-> RGB LED Board #176, J100
J176-3	BLU-WHT	->
J176-4	WHT-BLU	+7.5VDC to satellite RGB LED board
J176-5	BLK	Ground (cable shield)

J178 RGB LED Drive

J178-1	BLU	-> Drive signals to WOZ 1-Bank Drop
J178-2	WHT	-> Target Satellite RGB LED Board #178, J100
J178-3	BLU-WHT	->
J178-4	WHT-BLU	+7.5VDC to drop target satellite RGB LED board
J178-5	BLK	Ground (cable shield)

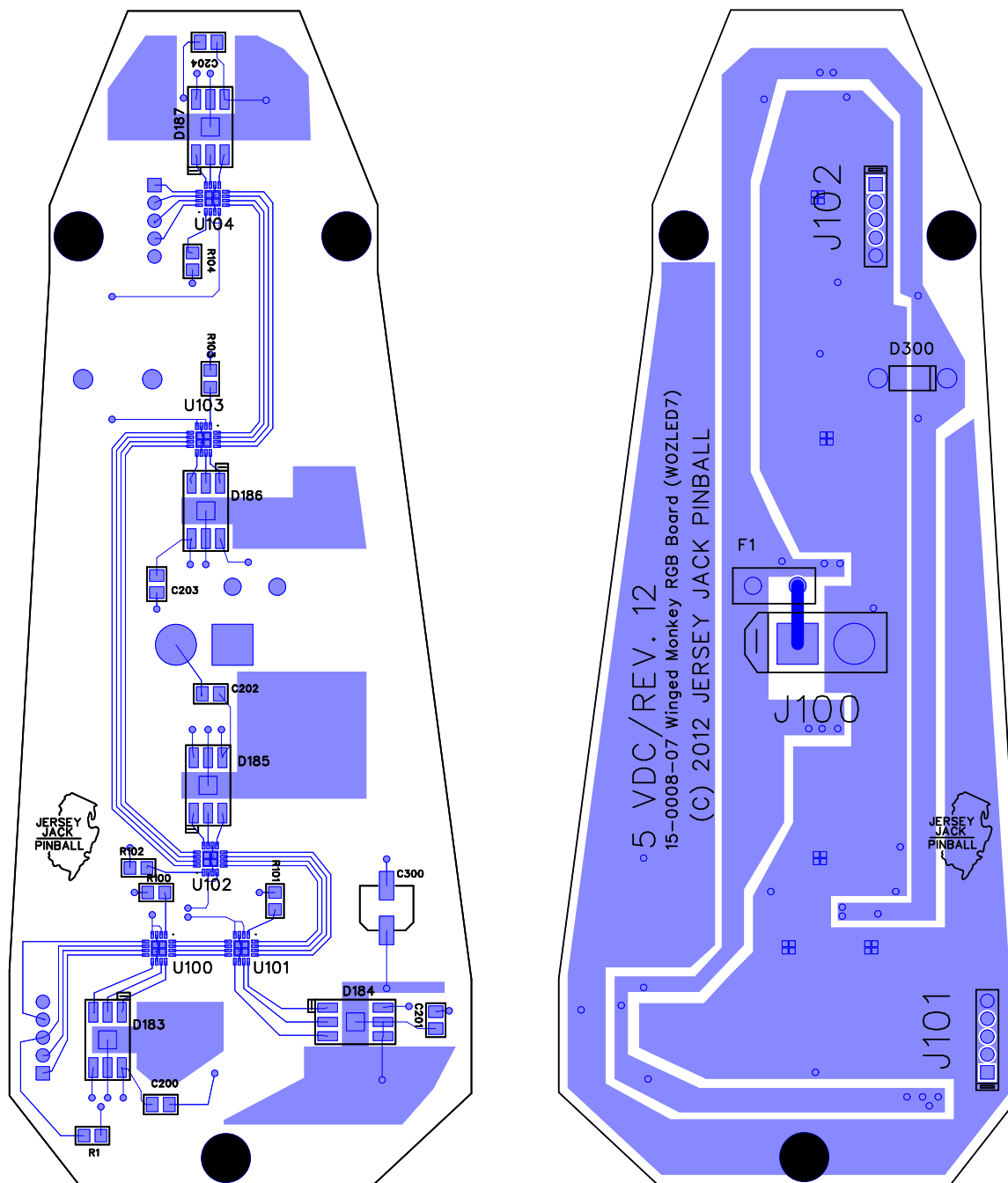
J179 RGB LED Drive

J179-1	BLU	-> Drive signals to WOZ Satellite
J179-2	WHT	-> RGB LED Board #179, J100
J179-3	BLU-WHT	->
J179-4	WHT-BLU	+7.5VDC to satellite RGB LED board
J179-5	BLK	Ground (cable shield)

JEXT LED Drive

JEXT-1	RED	+7.5VDC to RED wire of each LED above
JEXT-2	BLU-WHT	Drive signal to BLK wire of "O" LED in OZ Lanes sign
JEXT-3	GRN-WHT	Drive signal to BLK wire of "Z" LED in OZ Lanes sign
JEXT-4	YEL-WHT	Drive signal to BLK wire of LED in Haunted Forest sign

Note: All RGB LED Board connections to J100 pass through an in-line connector mounted in back panel of Cabinet PCB Chassis Assembly.



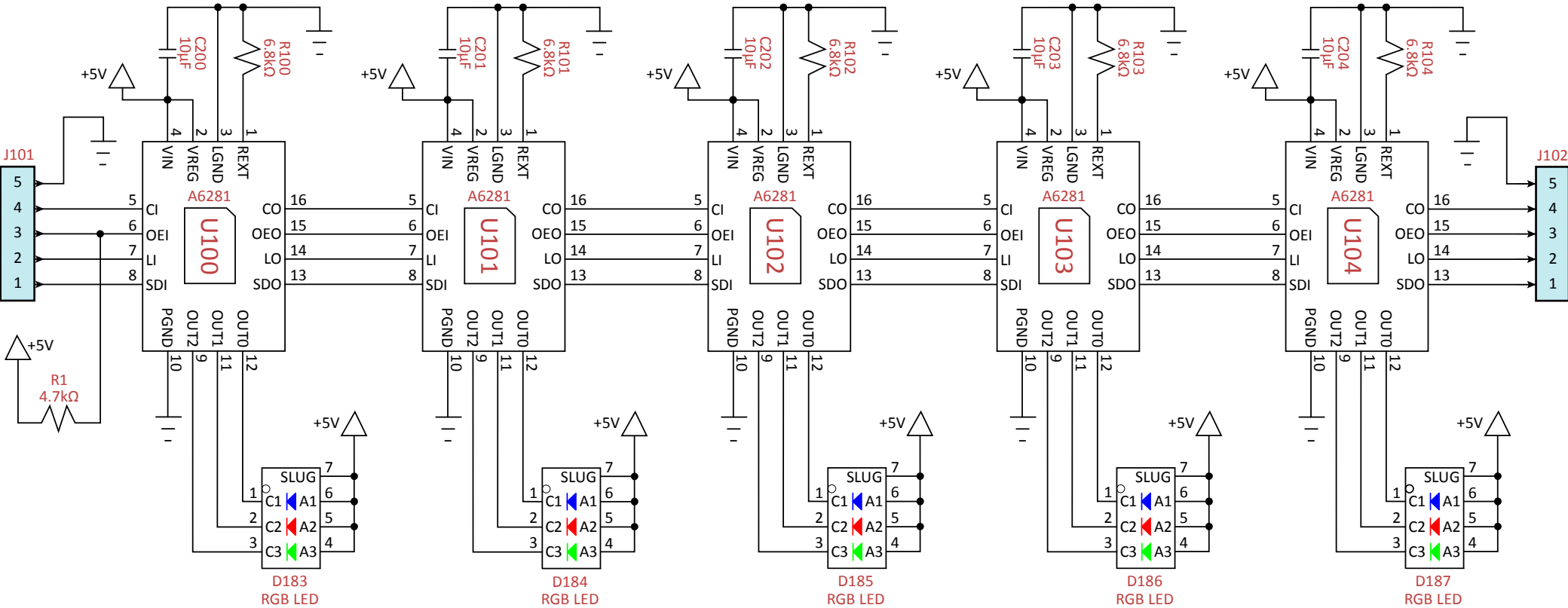
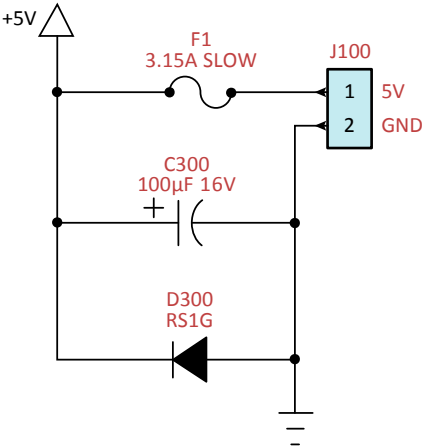
WOZ Winged Monkey RGB LED Board (WOZLED7)

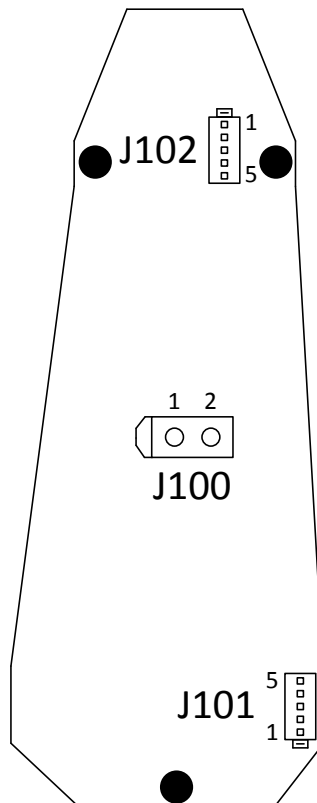
15-0008-07, Revision 12

(games manufactured before Sep 4, 2013)

Component(s)	Part Number	Description
C200-C204	100-106M-016	Capacitor, MLCC, 0805 SMT, 10μF, 16V, 20%
C300	109-107M-016	Capacitor, Elect (SMT), 100μF, 16V, 20%
D183-D187	24-0004-00	LED, SMT, High-Power RGB, 624/525/450nm
D300	110-5001-0S	Diode, RS1G, SMT, 400V, 1A, 150ns
F1	170-0332-ST	Fuse, Slow, Radial, Leaded, 3.15A, 300V
R1	120-04K7-334	Resistor, 0805 SMT, 4.7kΩ, 0.33W, 5%
R100-R104	120-06K8-334	Resistor, 0805 SMT, 6.8kΩ, 0.33W, 5%
U100-U104	140-0001-0S	3-Ch Const Current LED Drvr, A6281, 16-QFN
J100	30-2005-00	Header, Male, 2-pin, 6.35mm
J101, J102	30-2001-00	Header, Male, 5-pin, 2mm

WOZ Winged Monkey
RGB LED Board (WOZLED7)
15-0008-07, Revision 12





WOZ Winged Monkey RGB LED Board (WOZLED7), 15-0008-07

Connector Pin-outs, *Revision 12*

J100 Power Input

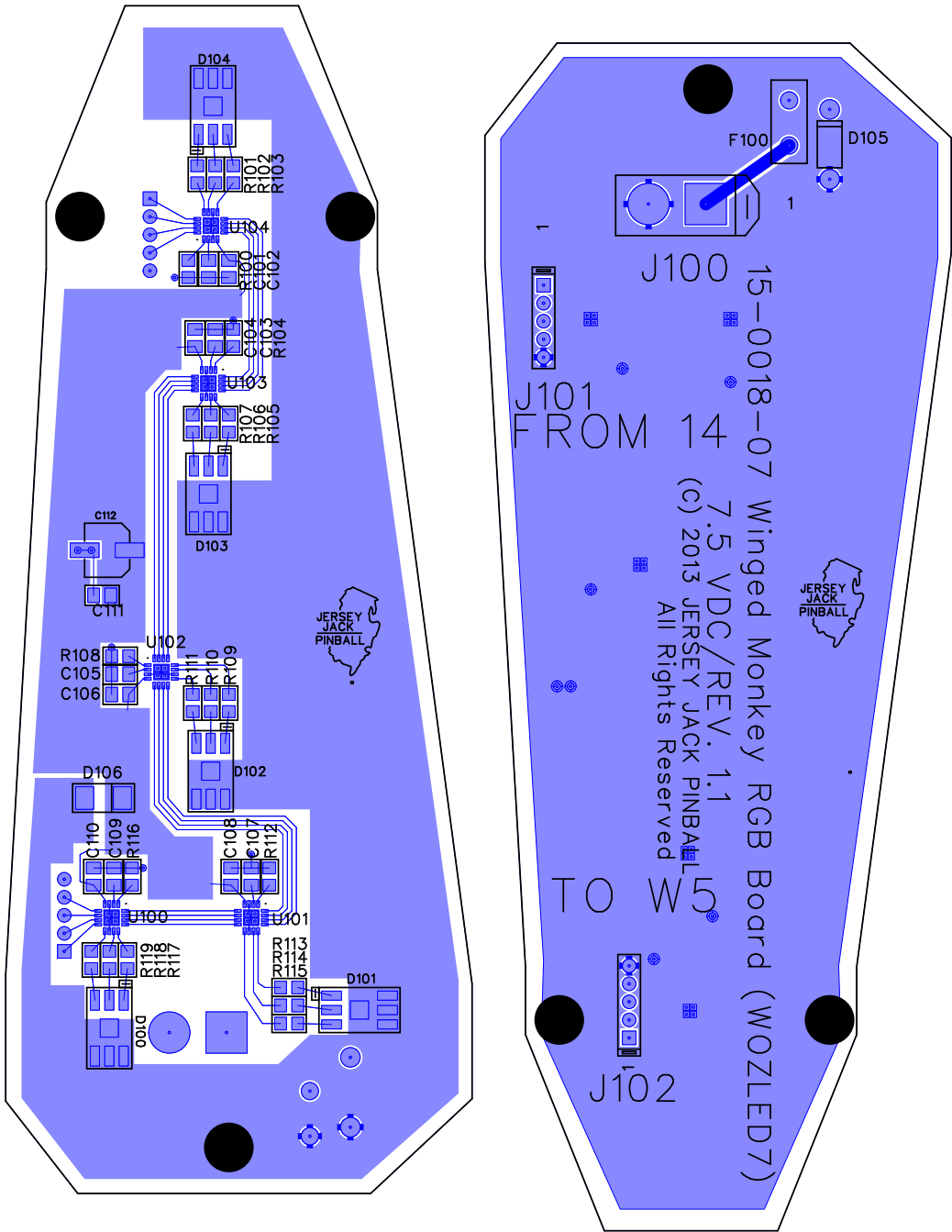
J100-1	VIO	+5VDC from 5VDC Power Supply
J100-2	BLK	Ground from 5VDC Power Supply

J101 RGB LED Control

J101-1	BLU	->
J101-2	WHT	-> Control signals from previous RGB LED board,
J101-3	BLU-WHT	-> WOZ Single GI RGB LED Board #14, J102
J101-4	WHT-BLU	->
J101-5	BLK	Ground (cable shield)

J102 RGB LED Control

J102-1	BLU	->
J102-2	WHT	-> Control signals to next RGB LED board,
J102-3	BLU-WHT	-> WOZ Haunted Forest RGB LED Board (WOZLED5), J101
J102-4	WHT-BLU	->
J102-5	BLK	Ground (cable shield)



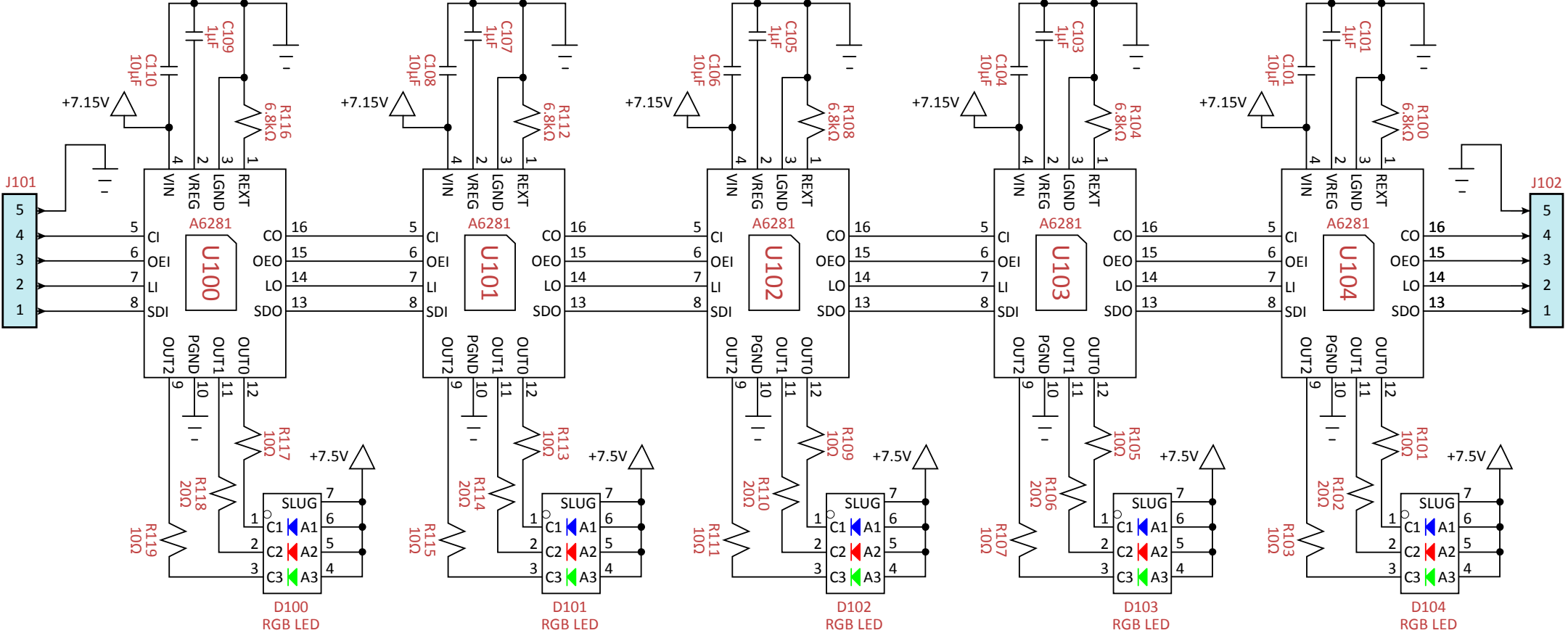
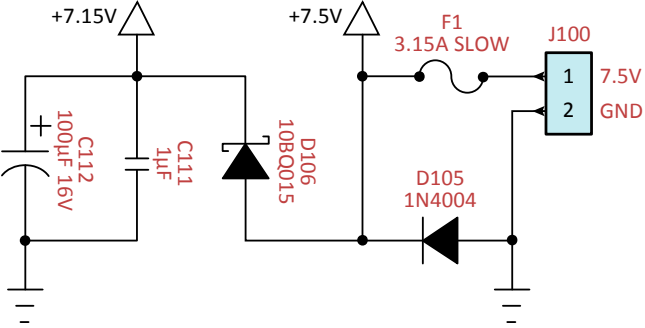
WOZ Winged Monkey RGB LED Board (WOZLED7)

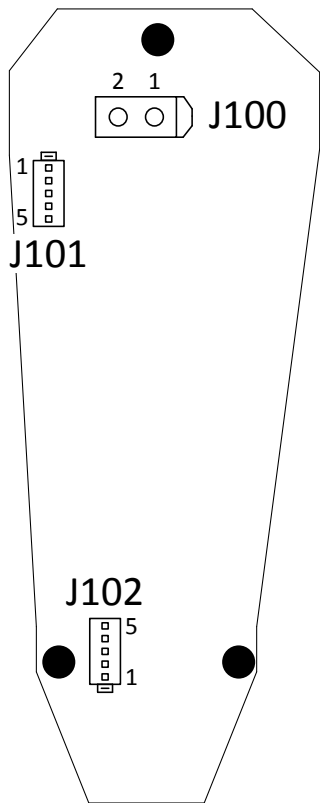
15-0018-07, Revision 1.1

(games manufactured on/after Sep 4, 2013)

Component(s)	Part Number	Description
C101, C103, C105, C107, C109, C111	100-105K-016	Capacitor, MLCC, 0805 SMT, 1µF, 16V, 10%
C102, C104, C106, C108, C110	100-106M-016	Capacitor, MLCC, 0805 SMT, 10µF, 16V, 20%
C112	109-107M-016	Capacitor, Elect (SMT), 100µF, 16V, 20%
D100-D104	24-0004-00	LED, SMT, High-Power RGB, 624/525/450nm
D105	110-0002-0T	Diode, 1N4004, 400V, 1A
D106	110-0004-0S	Diode, 10BQ015, SMT, Schottky Rectifier, 1A
F1	170-0332-ST	Fuse, Slow, Radial, Leaded, 3.15A, 300V
R100, R104, R108, R112, R116	120-06K8-334	Resistor, 0805 SMT, 6.8kΩ, 0.33W, 5%
R101, R103, R105, R107, R109, R111, R113, R115, R117, R119	120-0010-254	Resistor, 0805 SMT, 10Ω, 0.25W, 5%
R102, R106, R110, R114, R118	120-0020-254	Resistor, 0805 SMT, 20Ω, 0.25W, 5%
U100-U104	140-0001-0S	3-Ch Const Current LED Drvr, A6281, 16-QFN
J100	30-2005-00	Header, Male, 2-pin, 6.35mm
J101, J102	30-2001-00	Header, Male, 5-pin, 2mm

WOZ Winged Monkey RGB LED Board (WOZLED7) 15-0018-07, Revision 1.1





WOZ Winged Monkey RGB LED Board (WOZLED7), 15-0018-07
Connector Pin-outs, *Revision 1.1*

J100 Power Input

J100-1	VIO	+7.5VDC from 7.5VDC Power Supply or UPS Board, J4-1
J100-2	BLK	Ground from 7.5VDC Power Supply or UPS Board, J4-4

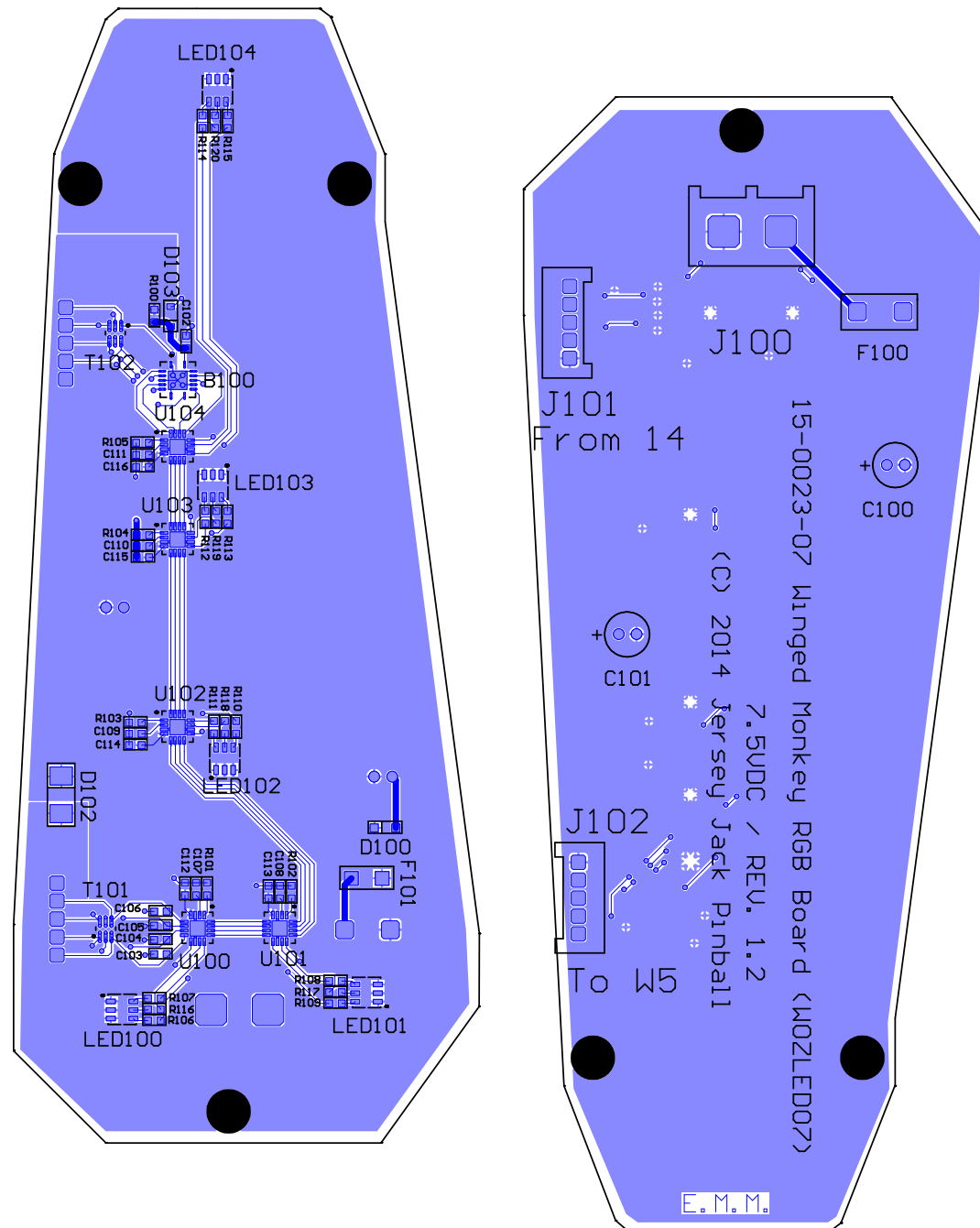
J101 RGB LED Control

J101-1	BLU	->
J101-2	WHT	-> Control signals from previous RGB LED board,
J101-3	BLU-WHT	-> WOZ Single GI RGB LED Board #14, J102
J101-4	WHT-BLU	->
J101-5	BLK	Ground (cable shield)

J102 RGB LED Control

J102-1	BLU	->
J102-2	WHT	-> Control signals to next RGB LED board,
J102-3	BLU-WHT	-> WOZ Haunted Forest RGB LED Board (WOZLED5), J101
J102-4	WHT-BLU	->
J102-5	BLK	Ground (cable shield)

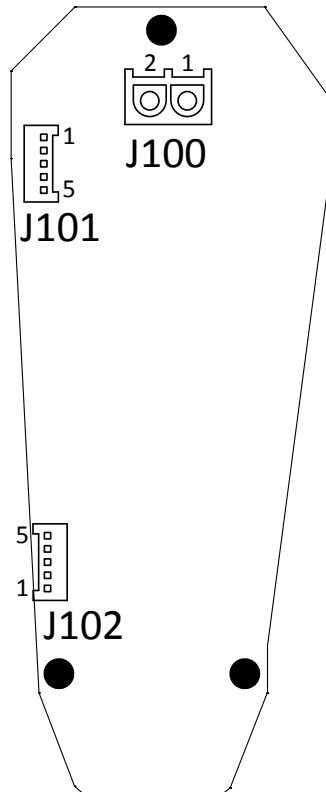
Note: All RGB LED Board connections to J100 pass through an in-line connector mounted in back panel of Cabinet PCB Chassis Assembly.



WOZ Winged Monkey RGB LED Board (WOZLED7)

15-0023-07, Revision 1.2

Component(s)	Part Number	Description
B100	141-0019-0S	Quad Bus Buffer Gates w/3-State Outputs, 74AHCT125, QFN-14 SMT
C100, C101	109-100M-016	Capacitor, Elect (Radial), 100 μ F, 16V, 20%
C102	103-104K-016	Capacitor, MLCC, 0603 SMT, 0.1 μ F, 16V, 10%
C103-C106	103-101J-050	Capacitor, MLCC, 0603 SMT, 100pF, 50V, 5%
C107-C111	103-105Z-016	Capacitor, MLCC, 0603 SMT, 1 μ F, 16V, +80%, -20%
C112-C116	100-106K-00	Capacitor, MLCC, 0805 SMT, 10 μ F, 16V, 10%
D100	110-0009-0S	Diode, DZ2J100, SMT, Zener, 10V, 200mW
D102	110-0004-0S	Diode, 10BQ015, SMT, Schottky Rectifier, 1A
D103	110-0010-0S	Diode, MM3Z5V1T1, SMT, Zener, 5.1V, 200mW
F100		Not Populated
F101	170-3204-FS	Fuse, Fast, 1206 SMT, 4A, 32V
LED100-LED104	24-0016-00	LED, SMT, High-Power RGB, 624/527/470nm
R100	122-71P5-102	Resistor, 0603 SMT, 71.5 Ω , 0.1W, 1%
R101-R105	122-18K7-102	Resistor, 0603 SMT, 18.7k Ω , 0.1W, 1%
R106-R115	122-0022-104	Resistor, 0603 SMT, 22 Ω , 0.1W, 5%
R116-R120	122-0047-104	Resistor, 0603 SMT, 47 Ω , 0.1W, 5%
T101, T102	141-0017-0S	RailClamp TVS Diode Array, RClamp0504F, SC70-6L SMT
U100-U104	140-0001-0S	3-Ch Const Current LED Drvr, A6281, 16-QFN
J100	30-2005-00	Header, Male, 2-pin, 6.35mm
J101, J102	30-2001-00	Header, Male, 5-pin, 2mm



WOZ Winged Monkey RGB LED Board (WOZLED7), 15-0023-07
Connector Pin-outs, *Revision 1.2*

J100 Power Input

J100-1	VIO	+7.5VDC from 7.5VDC Power Supply or UPS Board, J4-1
J100-2	BLK	Ground from 7.5VDC Power Supply or UPS Board, J4-4

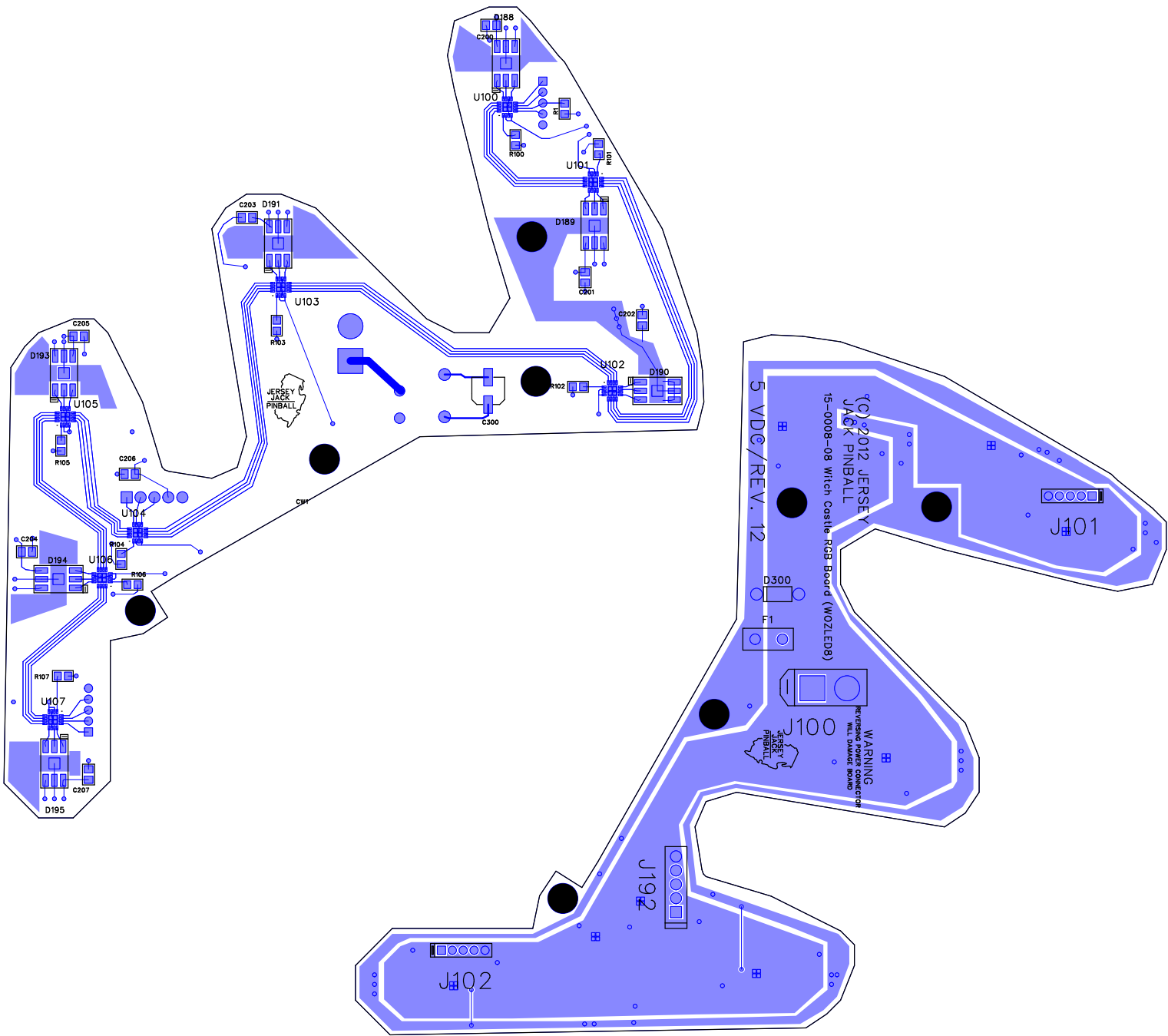
J101 RGB LED Control

J101-1	BLU	->
J101-2	WHT	-> Control signals from previous RGB LED board,
J101-3	BLU-WHT	-> WOZ Single GI RGB LED Board #14, J102
J101-4	WHT-BLU	->
J101-5	BLK	Ground (cable shield)

J102 RGB LED Control

J102-1	BLU	->
J102-2	WHT	-> Control signals to next RGB LED board,
J102-3	BLU-WHT	-> WOZ Haunted Forest RGB LED Board (WOZLED5), J101
J102-4	WHT-BLU	->
J102-5	BLK	Ground (cable shield)

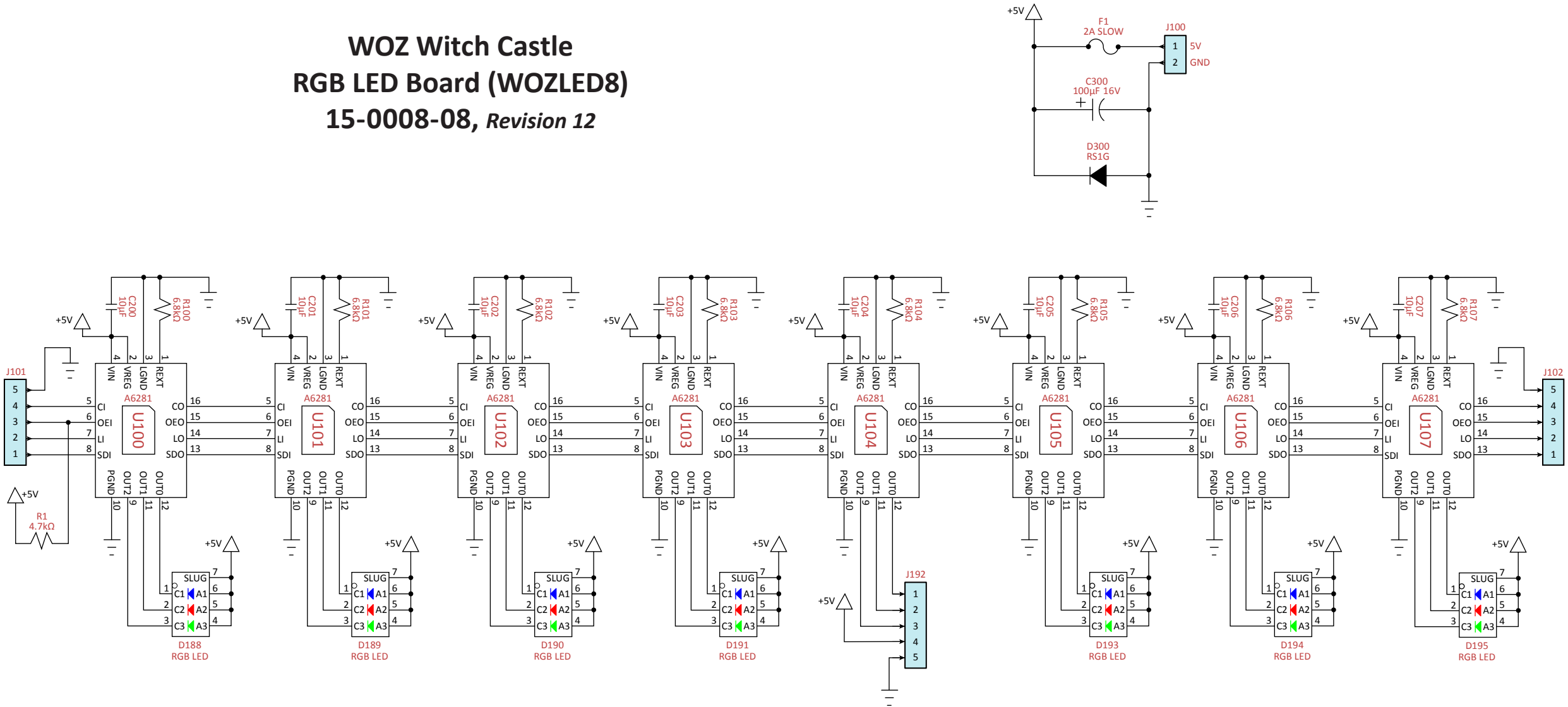
Note: All RGB LED Board connections to J100 pass through an in-line connector mounted in back panel of Cabinet PCB Chassis Assembly.

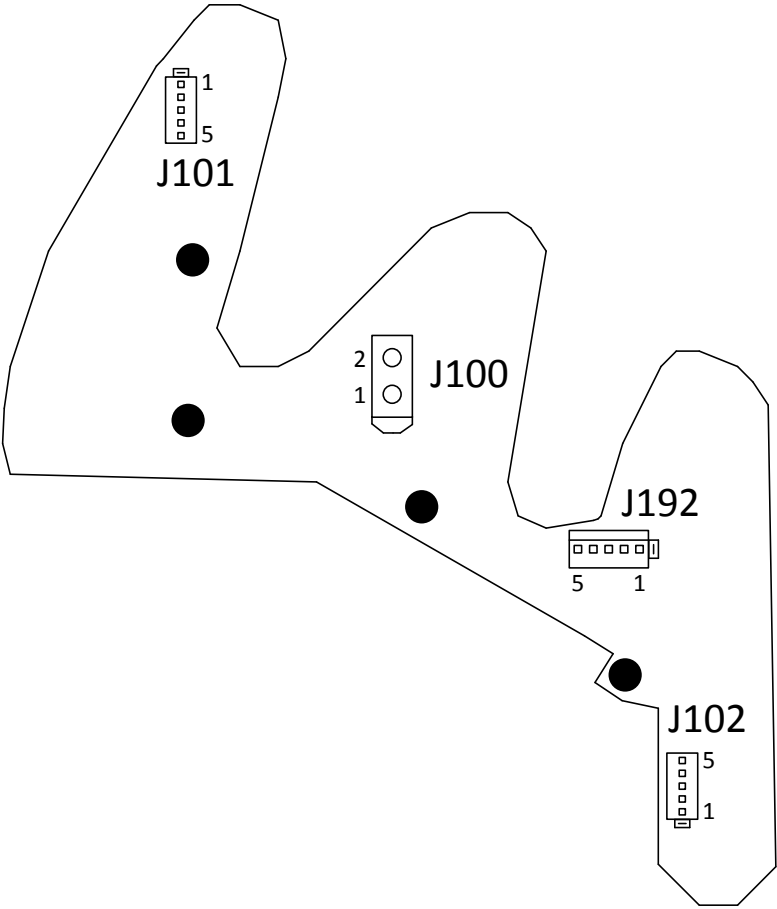


WOZ Witch Castle RGB LED Board (WOZLED8)
15-0008-08, Revision 12
(games manufactured before Sep 4, 2013)

Component(s)	Part Number	Description
C200-C207	100-106M-016	Capacitor, MLCC, 0805 SMT, 10µF, 16V, 20%
C300	109-107M-016	Capacitor, Elect (SMT), 100µF, 16V, 20%
D188-D191, D193-D195	24-0004-00	LED, SMT, High-Power RGB, 624/525/450nm
D300	110-5001-0S	Diode, RS1G, SMT, 400V, 1A, 150ns
F1	170-0302-ST	Fuse, Slow, Radial, Leaded, 2A, 300V
R1	120-04K7-334	Resistor, 0805 SMT, 4.7kΩ, 0.33W, 5%
R100-R107	120-06K8-334	Resistor, 0805 SMT, 6.8kΩ, 0.33W, 5%
U100-U107	140-0001-0S	3-Ch Const Current LED Drvr, A6281, 16-QFN
J100	30-2005-00	Header, Male, 2-pin, 6.35mm
J101, J102	30-2001-00	Header, Male, 5-pin, 2mm
J192	30-2002-00	Header, Male, 5-pin, 2.54mm

WOZ Witch Castle
RGB LED Board (WOZLED8)
15-0008-08, Revision 12





WOZ Witch Castle RGB LED Board (WOZLED8), 15-0008-08
Connector Pin-outs, *Revision 12*

J100 Power Input

J100-1	VIO	+5VDC from 5VDC Power Supply
J100-2	BLK	Ground from 5VDC Power Supply

J101 RGB LED Control

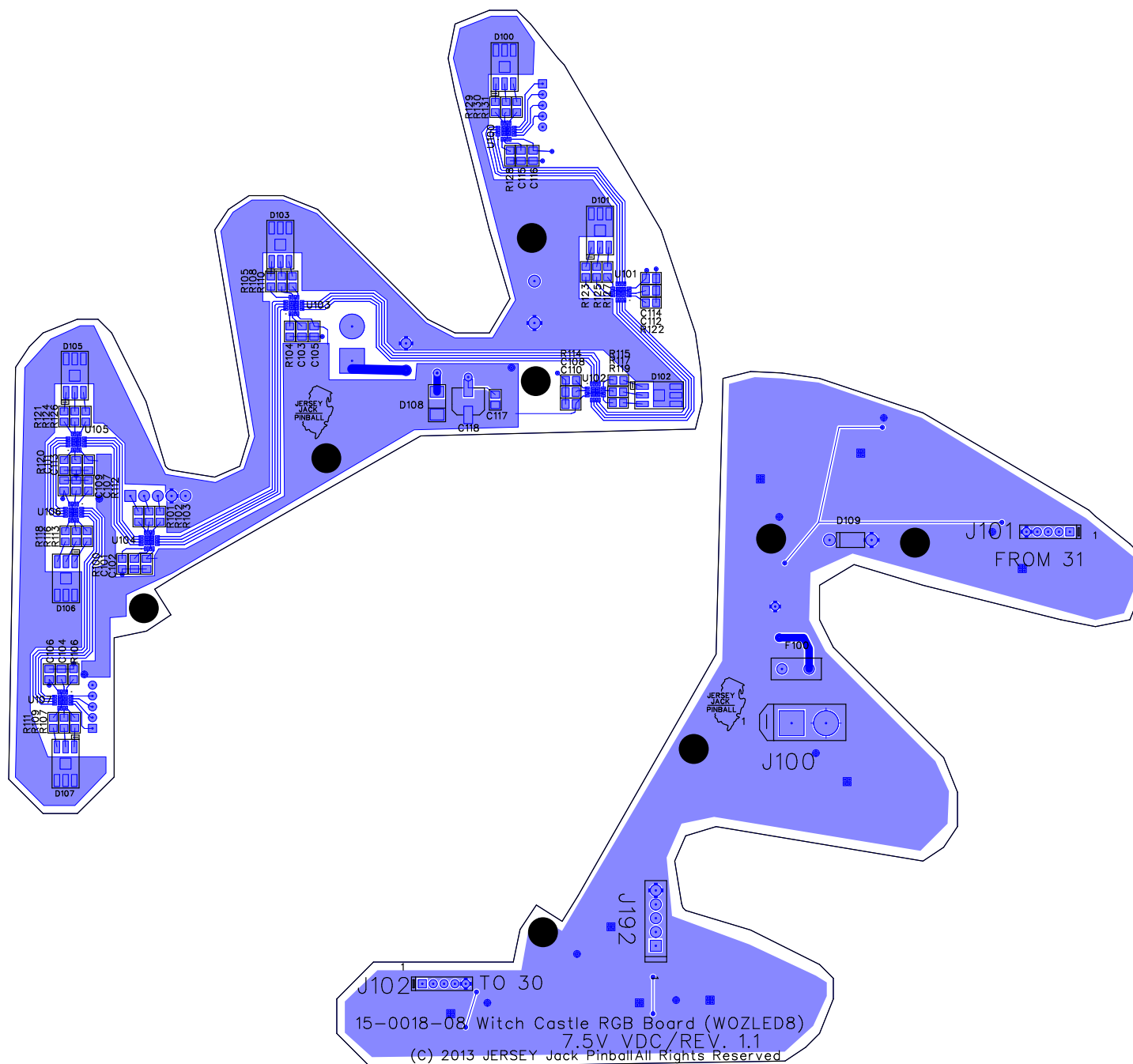
J101-1	BLU	->
J101-2	WHT	-> Control signals from previous RGB LED board,
J101-3	BLU-WHT	-> WOZ Single GI RGB LED Board #31, J102
J101-4	WHT-BLU	->
J101-5	BLK	Ground (cable shield)

J102 RGB LED Control

J102-1	BLU	->
J102-2	WHT	-> Control signals to next RGB LED board,
J102-3	BLU-WHT	-> WOZ Single GI RGB LED Board #30, J101
J102-4	WHT-BLU	->
J102-5	BLK	Ground (cable shield)

J192 RGB LED Drive

J192-1	BLU	-> Drive signals to WOZ Satellite
J192-2	WHT	-> RGB LED Board #192, J100
J192-3	BLU-WHT	->
J192-4	WHT-BLU	+5VDC to satellite RGB LED board
J192-5	BLK	Ground (cable shield)



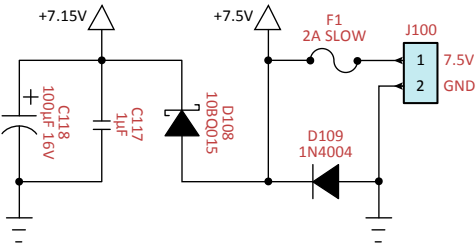
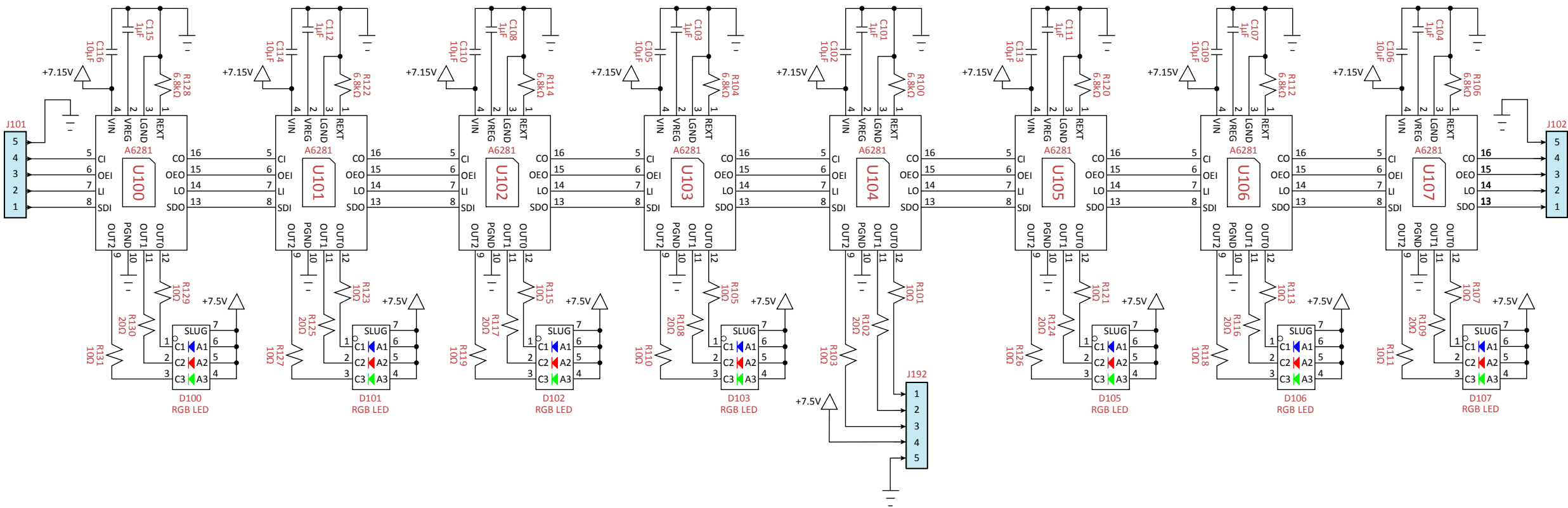
WOZ Witch Castle RGB LED Board (WOZLED8)

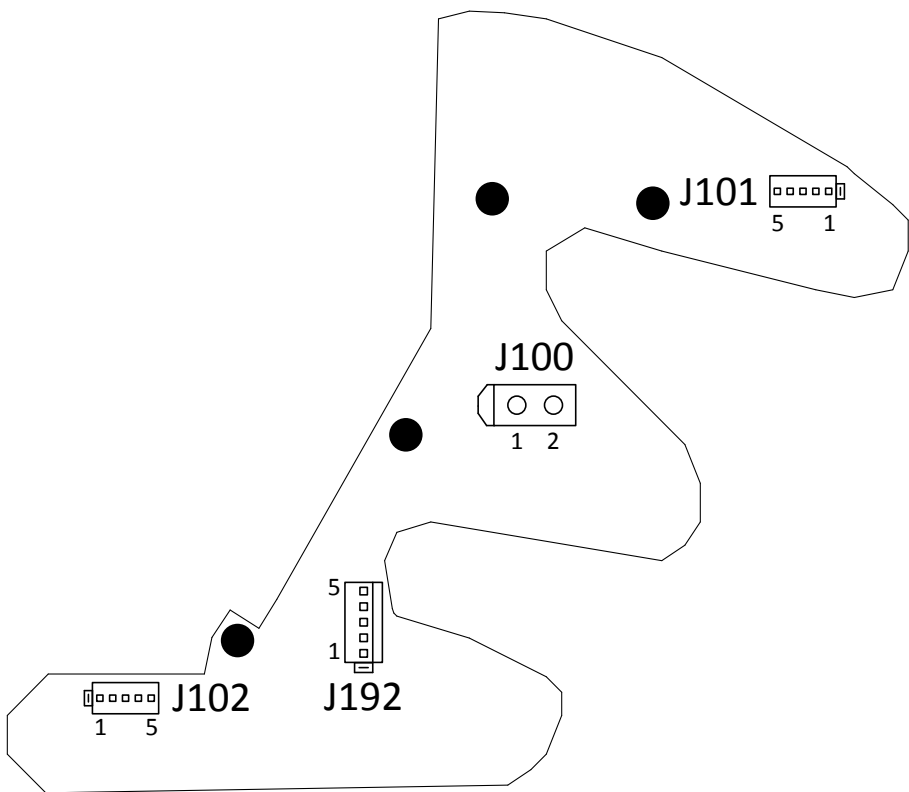
15-0018-08, Revision 1.1

(games manufactured on/after Sep 4, 2013)

Component(s)	Part Number	Description
C101, C103, C104, C107, C108, C111, C112, C115, C117	100-105K-016	Capacitor, MLCC, 0805 SMT, 1μF, 16V, 10%
C102, C105, C106, C109, C110, C113, C114, C116	100-106M-016	Capacitor, MLCC, 0805 SMT, 10μF, 16V, 20%
C118	109-107M-016	Capacitor, Elect (SMT), 100μF, 16V, 20%
D100-D103, D105-D107	24-0004-00	LED, SMT, High-Power RGB, 624/525/450nm
D108	110-0004-0S	Diode, 10BQ015, SMT, Schottky Rectifier, 1A
D109	110-0002-0T	Diode, 1N4004, 400V, 1A
F1	170-0302-ST	Fuse, Slow, Radial, Leaded, 2A, 300V
R100, R104, R106, R112, R114, R120, R122, R128	120-06K8-334	Resistor, 0805 SMT, 6.8kΩ, 0.33W, 5%
R101, R103, R105, R107, R110, R111, R113, R115, R118, R119, R121, R123, R126, R127, R129, R131	120-0010-254	Resistor, 0805 SMT, 10Ω, 0.25W, 5%
R102, R108, R109, R116, R117, R124, R125, R130	120-0020-254	Resistor, 0805 SMT, 20Ω, 0.25W, 5%
U100-U107	140-0001-0S	3-Ch Const Current LED Drvr, A6281, 16-QFN
J100	30-2005-00	Header, Male, 2-pin, 6.35mm
J101, J102	30-2001-00	Header, Male, 5-pin, 2mm
J192	30-2002-00	Header, Male, 5-pin, 2.54mm

WOZ Witch Castle
RGB LED Board (WOZLED8)
15-0018-08, Revision 1.1





WOZ Witch Castle RGB LED Board (WOZLED8), 15-0018-08

Connector Pin-outs, *Revision 1.1*

J100 Power Input

J100-1	VIO	+7.5VDC from 7.5VDC Power Supply or UPS Board, J4-1
J100-2	BLK	Ground from 7.5VDC Power Supply or UPS Board, J4-4

J101 RGB LED Control

J101-1	BLU	->
J101-2	WHT	-> Control signals from previous RGB LED board,
J101-3	BLU-WHT	-> WOZ Single GI RGB LED Board #31, J102
J101-4	WHT-BLU	->
J101-5	BLK	Ground (cable shield)

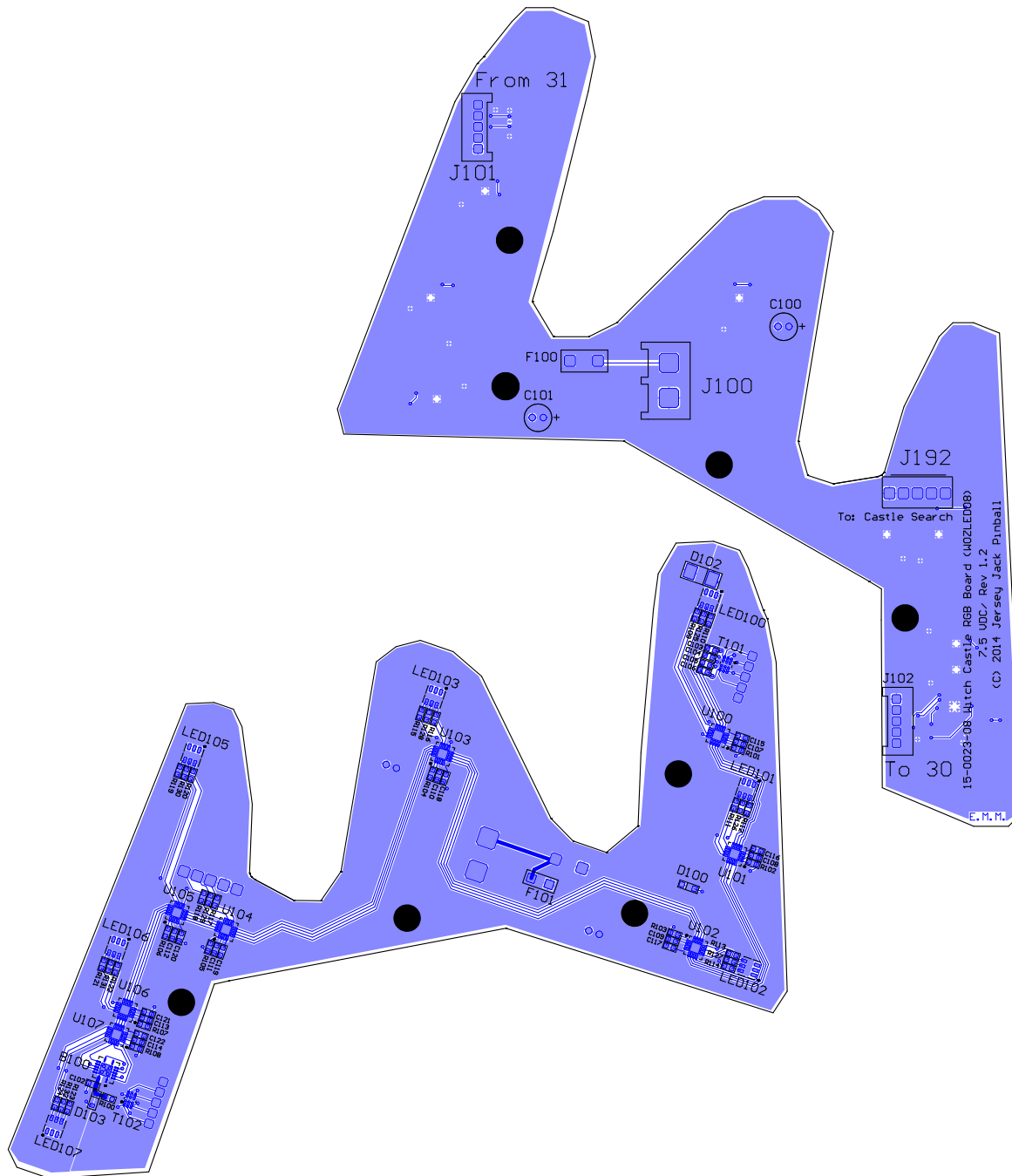
J102 RGB LED Control

J102-1	BLU	->
J102-2	WHT	-> Control signals to next RGB LED board,
J102-3	BLU-WHT	-> WOZ Single GI RGB LED Board #30, J101
J102-4	WHT-BLU	->
J102-5	BLK	Ground (cable shield)

J192 RGB LED Drive

J192-1	BLU	-> Drive signals to WOZ Satellite
J192-2	WHT	-> RGB LED Board #192, J100
J192-3	BLU-WHT	->
J192-4	WHT-BLU	+7.5VDC to satellite RGB LED board
J192-5	BLK	Ground (cable shield)

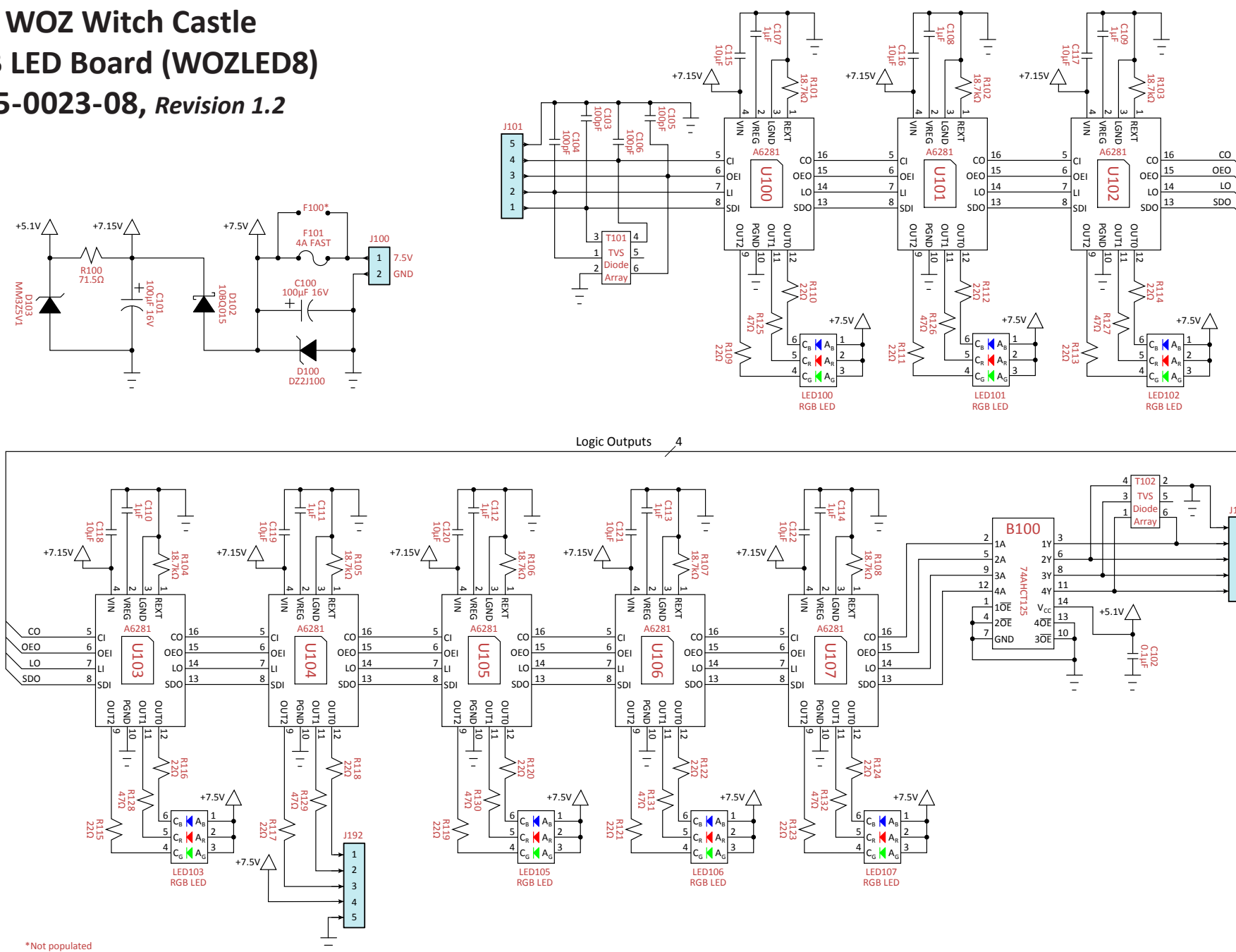
Note: All RGB LED Board connections to J100 pass through an in-line connector mounted in back panel of Cabinet PCB Chassis Assembly.

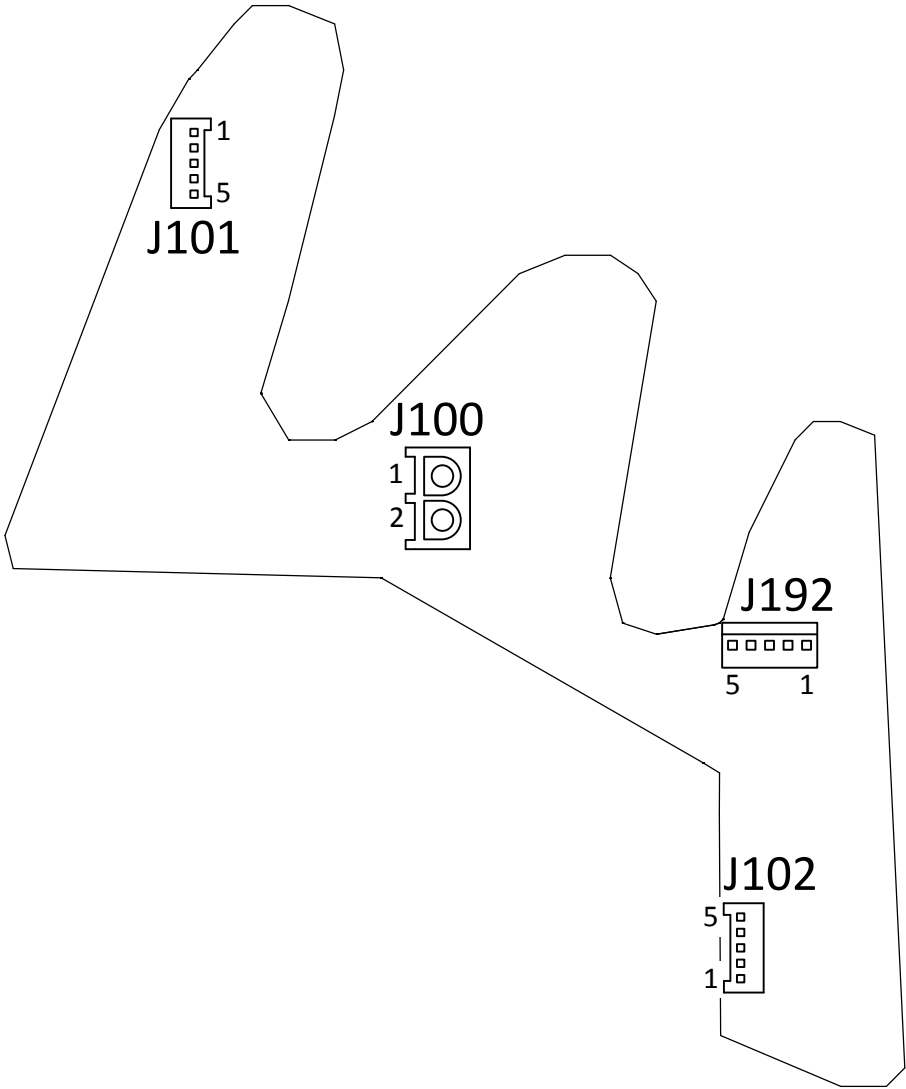


WOZ Witch Castle RGB LED Board (WOZLED8)
15-0023-08, *Revision 1.2*

Component(s)	Part Number	Description
B100	141-0019-0S	Quad Bus Buffer Gates w/3-State Outputs, 74AHCT125, QFN-14 SMT
C100, C101	109-100M-016	Capacitor, Elect (Radial), 100μF, 16V, 20%
C102	103-104K-016	Capacitor, MLCC, 0603 SMT, 0.1μF, 16V, 10%
C103-C106	103-101J-050	Capacitor, MLCC, 0603 SMT, 100pF, 50V, 5%
C107-C114	103-105Z-016	Capacitor, MLCC, 0603 SMT, 1μF, 16V, +80%, -20%
C115-C122	100-106K-00	Capacitor, MLCC, 0805 SMT, 10μF, 16V, 10%
D100	110-0009-0S	Diode, DZ2J100, SMT, Zener, 10V, 200mW
D102	110-0004-0S	Diode, 10BQ015, SMT, Schottky Rectifier, 1A
D103	110-0010-0S	Diode, MM3Z5V1T1, SMT, Zener, 5.1V, 200mW
F100		Not Populated
F101	170-3204-FS	Fuse, Fast, 1206 SMT, 4A, 32V
LED100-LED103, LED105-LED107	24-0016-00	LED, SMT, High-Power RGB, 624/527/470nm
R100	122-71P5-102	Resistor, 0603 SMT, 71.5Ω, 0.1W, 1%
R101-R108	122-18K7-102	Resistor, 0603 SMT, 18.7kΩ, 0.1W, 1%
R109-R124	122-0022-104	Resistor, 0603 SMT, 22Ω, 0.1W, 5%
R125-R132	122-0047-104	Resistor, 0603 SMT, 47Ω, 0.1W, 5%
T101, T102	141-0017-0S	RailClamp TVS Diode Array, RClamp0504F, SC70-6L SMT
U100-U107	140-0001-0S	3-Ch Const Current LED Drvr, A6281, 16-QFN
J100	30-2005-00	Header, Male, 2-pin, 6.35mm
J101, J102	30-2001-00	Header, Male, 5-pin, 2mm
J192	30-2002-00	Header, Male, 5-pin, 2.54mm

WOZ Witch Castle
RGB LED Board (WOZLED8)
15-0023-08, *Revision 1.2*





WOZ Witch Castle RGB LED Board (WOZLED8), 15-0023-08
Connector Pin-outs, *Revision 1.2*

J100 Power Input

J100-1	VIO	+7.5VDC from 7.5VDC Power Supply or UPS Board, J4-1
J100-2	BLK	Ground from 7.5VDC Power Supply or UPS Board, J4-4

J101 RGB LED Control

J101-1	BLU	->
J101-2	WHT	-> Control signals from previous RGB LED board,
J101-3	BLU-WHT	-> WOZ Single GI RGB LED Board #31, J102
J101-4	WHT-BLU	->
J101-5	BLK	Ground (cable shield)

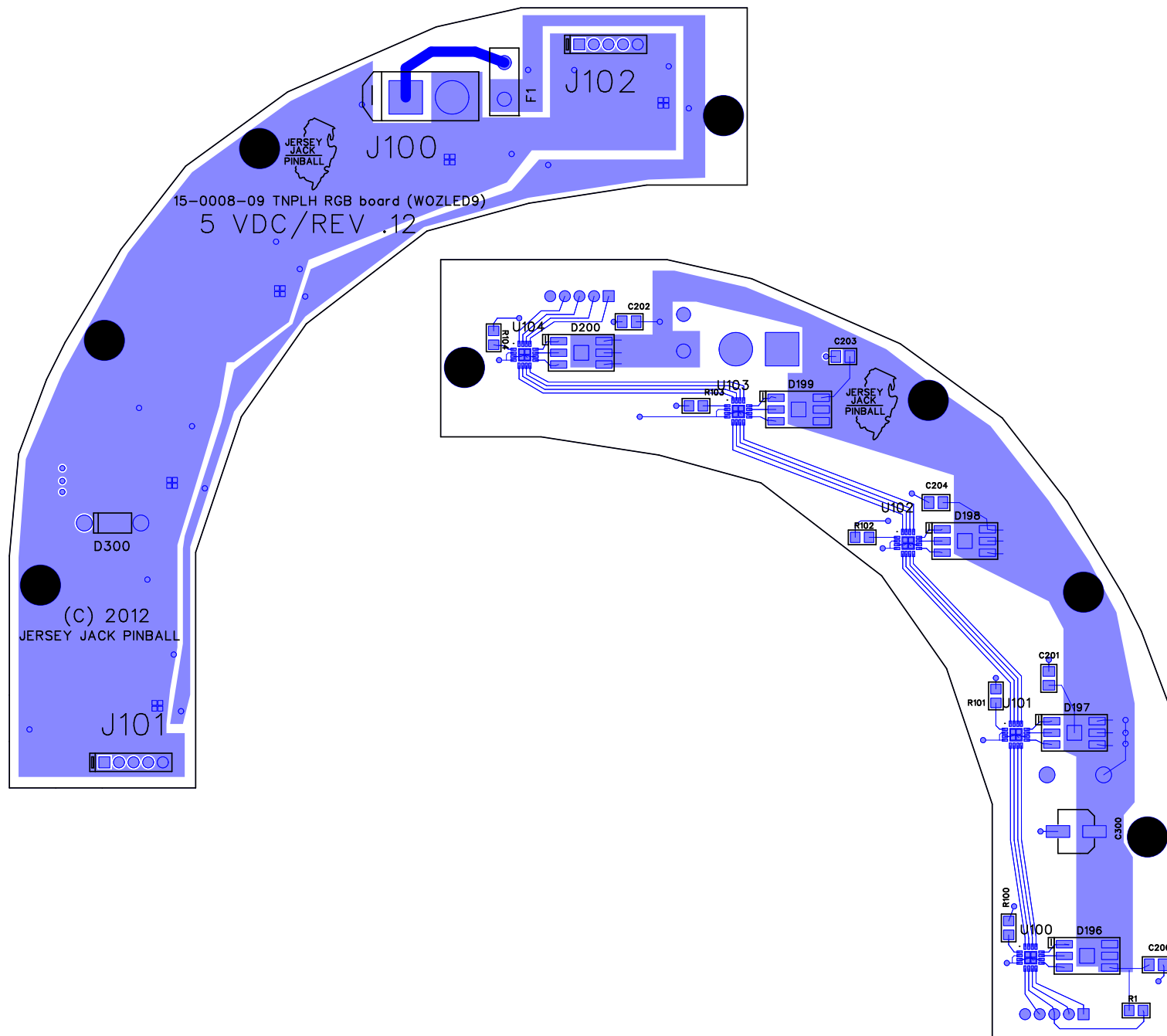
J102 RGB LED Control

J102-1	BLU	->
J102-2	WHT	-> Control signals to next RGB LED board,
J102-3	BLU-WHT	-> WOZ Single GI RGB LED Board #30, J101
J102-4	WHT-BLU	->
J102-5	BLK	Ground (cable shield)

J192 RGB LED Drive

J192-1	BLU	-> Drive signals to WOZ Satellite
J192-2	WHT	-> RGB LED Board #192, J100
J192-3	BLU-WHT	->
J192-4	WHT-BLU	+7.5VDC to satellite RGB LED board
J192-5	BLK	Ground (cable shield)

Note: All RGB LED Board connections to J100 pass through an in-line connector mounted in back panel of Cabinet PCB Chassis Assembly.



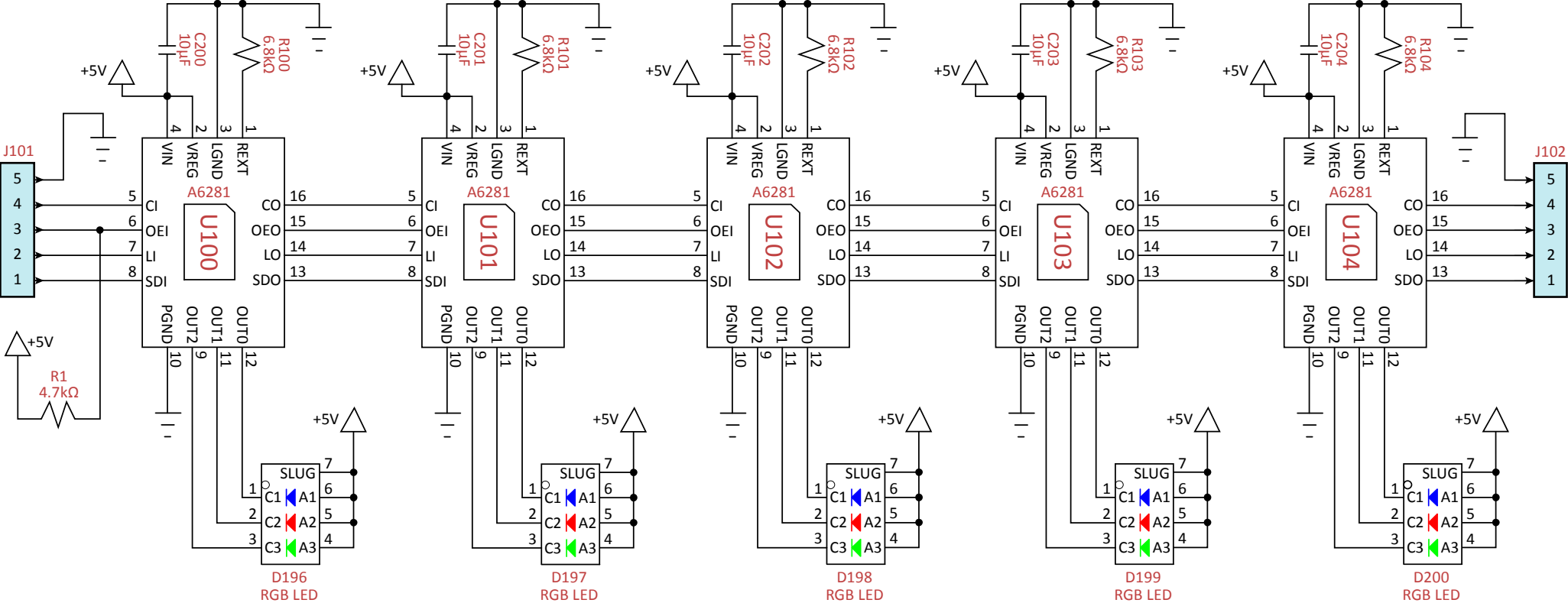
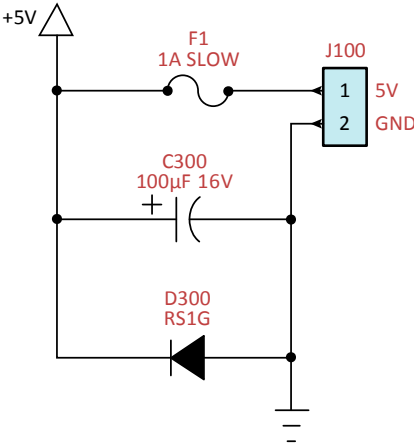
WOZ TNPLH RGB LED Board (WOZLED9)

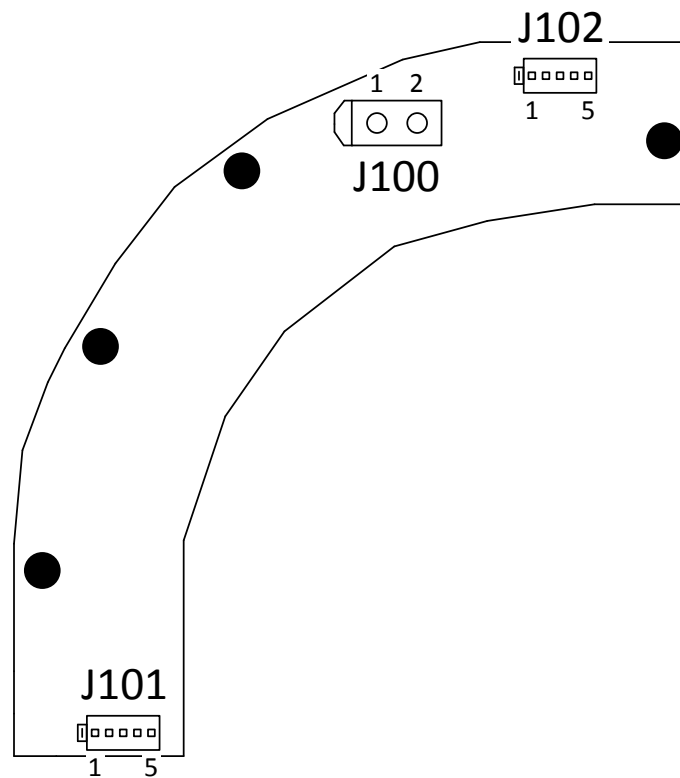
15-0008-09, Revision 12

(games manufactured before Sep 4, 2013)

Component(s)	Part Number	Description
C200-C204	100-106M-016	Capacitor, MLCC, 0805 SMT, 10μF, 16V, 20%
C300	109-107M-016	Capacitor, Elect (SMT), 100μF, 16V, 20%
D196-D200	24-0004-00	LED, SMT, High-Power RGB, 624/525/450nm
D300	110-5001-0S	Diode, RS1G, SMT, 400V, 1A, 150ns
F1	170-0301-ST	Fuse, Slow, Radial, Leaded, 1A, 300V
R1	120-04K7-334	Resistor, 0805 SMT, 4.7kΩ, 0.33W, 5%
R100-R104	120-06K8-334	Resistor, 0805 SMT, 6.8kΩ, 0.33W, 5%
U100-U104	140-0001-0S	3-Ch Const Current LED Drvr, A6281, 16-QFN
J100	30-2005-00	Header, Male, 2-pin, 6.35mm
J101, J102	30-2001-00	Header, Male, 5-pin, 2mm

WOZ TNPLH
RGB LED Board (WOZLED9)
15-0008-09, Revision 12





WOZ TNPLH RGB LED Board (WOZLED9), 15-0008-09

Connector Pin-outs, *Revision 12*

J100 Power Input

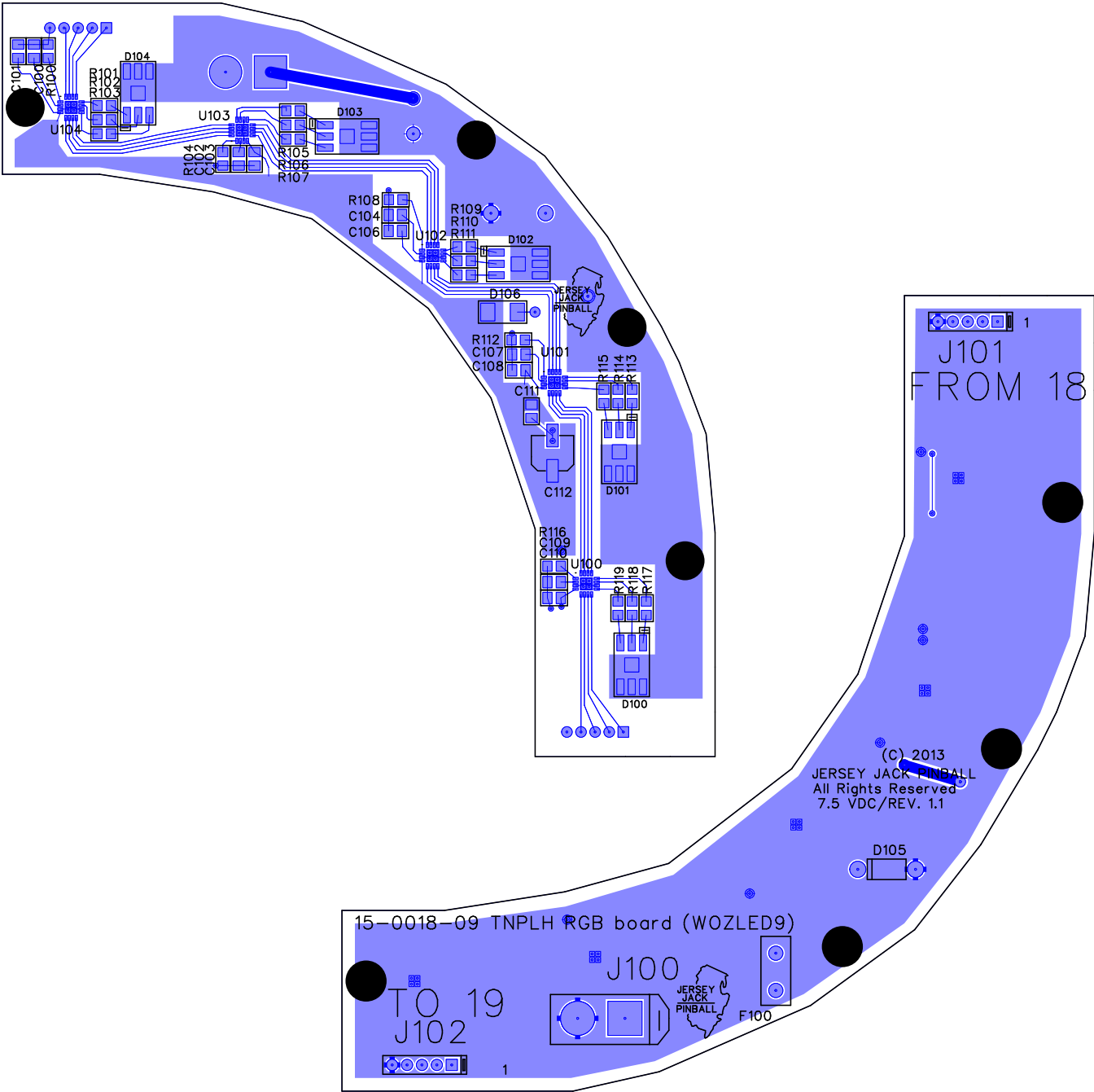
J100-1	VIO	+5VDC from 5VDC Power Supply
J100-2	BLK	Ground from 5VDC Power Supply

J101 RGB LED Control

J101-1	BLU	->
J101-2	WHT	-> Control signals from previous RGB LED board,
J101-3	BLU-WHT	-> WOZ Single GI RGB LED Board #18, J102
J101-4	WHT-BLU	->
J101-5	BLK	Ground (cable shield)

J102 RGB LED Control

J102-1	BLU	->
J102-2	WHT	-> Control signals to next RGB LED board,
J102-3	BLU-WHT	-> WOZ Single GI RGB LED Board #19, J101
J102-4	WHT-BLU	->
J102-5	BLK	Ground (cable shield)

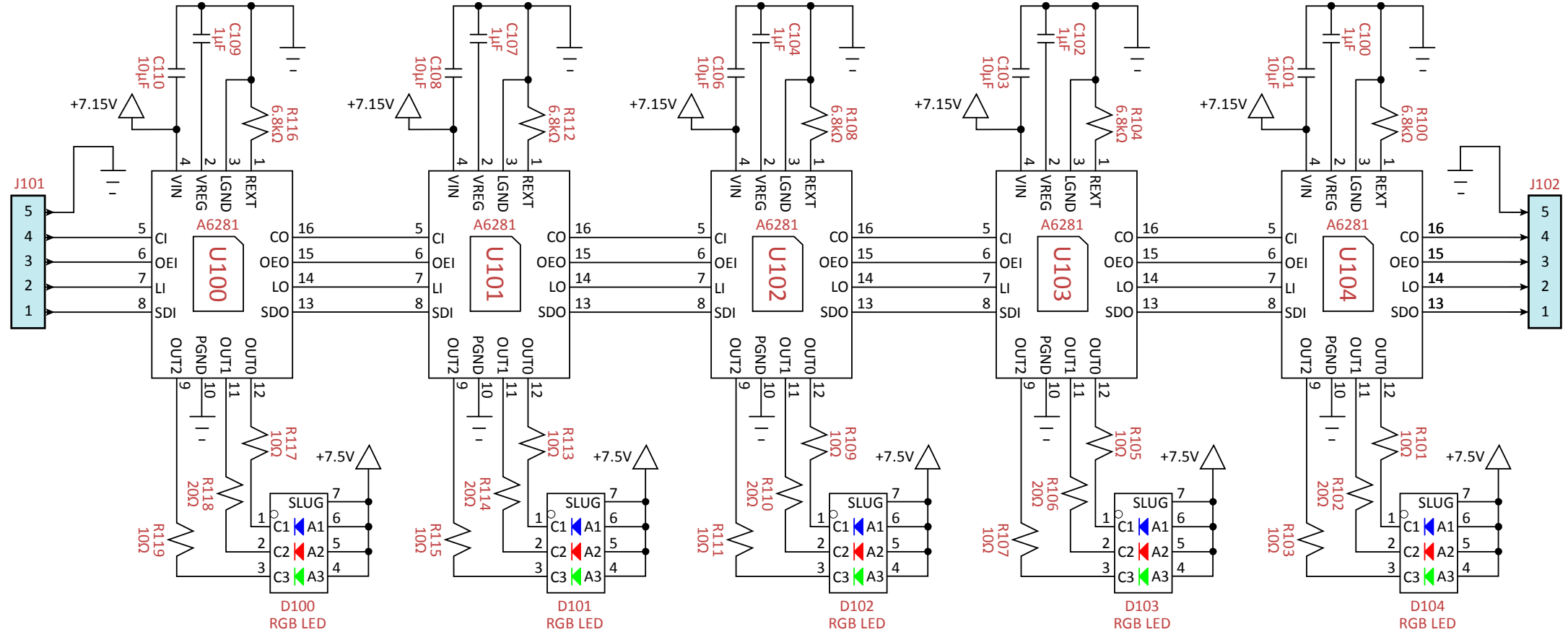
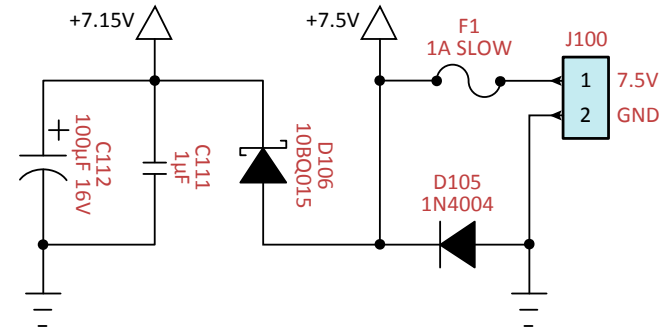


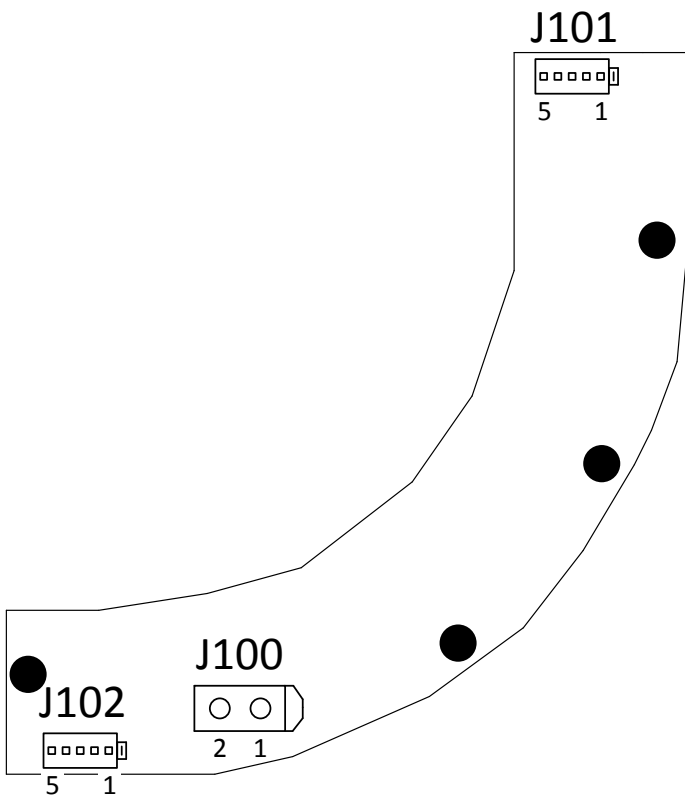
WOZ TNPLH RGB LED Board (WOZLED9)

15-0018-09, Revision 1.1
(games manufactured on/after Sep 4, 2013)

Component(s)	Part Number	Description
C100, C102, C104, C107, C109, C111	100-105K-016	Capacitor, MLCC, 0805 SMT, 1μF, 16V, 10%
C101, C103, C106, C108, C110	100-106M-016	Capacitor, MLCC, 0805 SMT, 10μF, 16V, 20%
C112	109-107M-016	Capacitor, Elect (SMT), 100μF, 16V, 20%
D100-D104	24-0004-00	LED, SMT, High-Power RGB, 624/525/450nm
D105	110-0002-0T	Diode, 1N4004, 400V, 1A
D106	110-0004-0S	Diode, 10BQ015, SMT, Schottky Rectifier, 1A
F1	170-0301-ST	Fuse, Slow, Radial, Leaded, 1A, 300V
R100, R104, R108, R112, R116	120-06K8-334	Resistor, 0805 SMT, 6.8kΩ, 0.33W, 5%
R101, R103, R105, R107, R109, R111, R113, R115, R117, R119	120-0010-254	Resistor, 0805 SMT, 10Ω, 0.25W, 5%
R102, R106, R110, R114, R118	120-0020-254	Resistor, 0805 SMT, 20Ω, 0.25W, 5%
U100-U104	140-0001-0S	3-Ch Const Current LED Drvr, A6281, 16-QFN
J100	30-2005-00	Header, Male, 2-pin, 6.35mm
J101, J102	30-2001-00	Header, Male, 5-pin, 2mm

WOZ TNPLH
RGB LED Board (WOZLED9)
15-0018-09, *Revision 1.1*





WOZ TNPLH RGB LED Board (WOZLED9), 15-0018-09
Connector Pin-outs, *Revision 1.1*

J100 Power Input

J100-1	VIO	+7.5VDC from 7.5VDC Power Supply or UPS Board, J4-3
J100-2	BLK	Ground from 7.5VDC Power Supply or UPS Board, J4-6

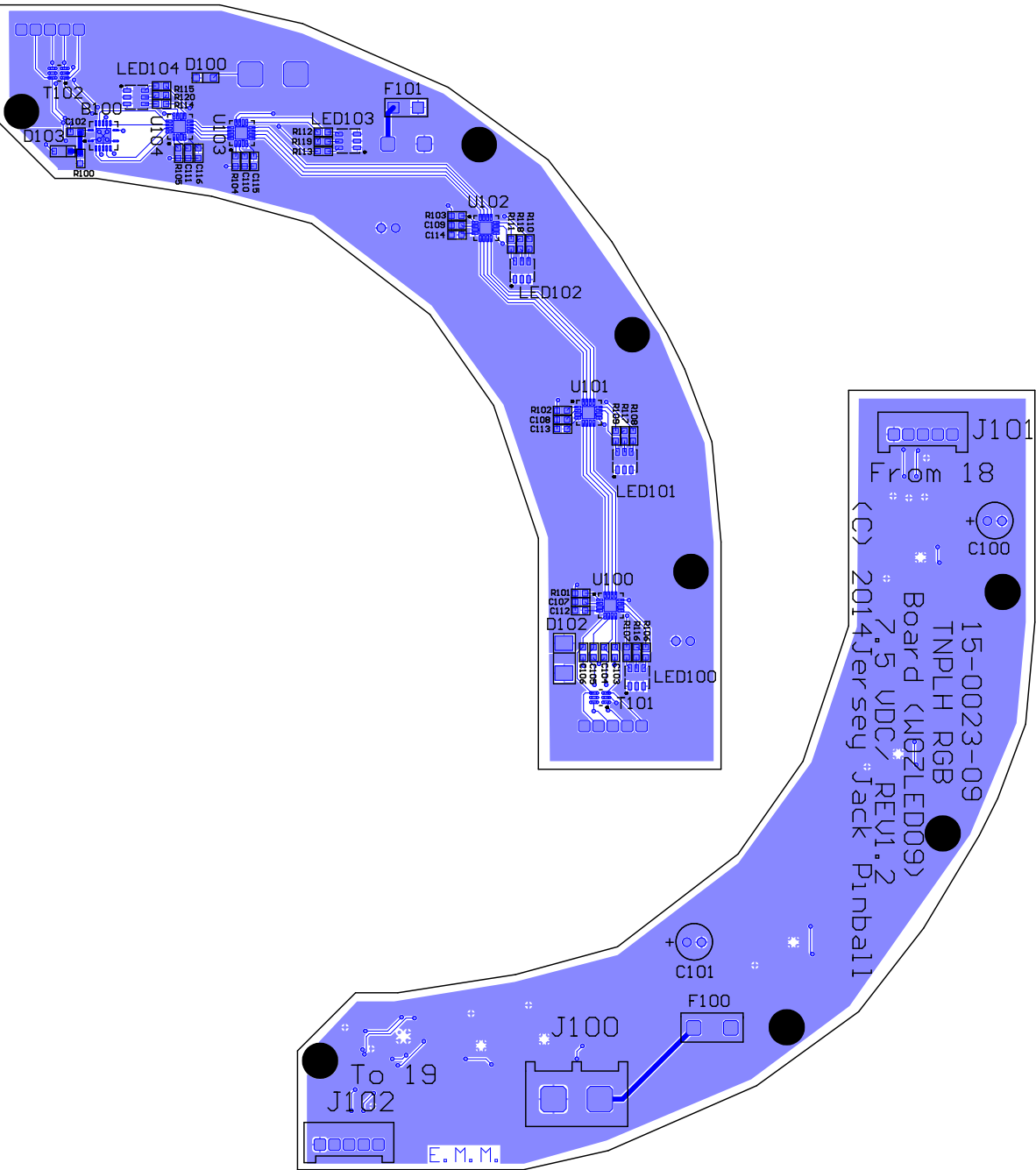
J101 RGB LED Control

J101-1	BLU	->
J101-2	WHT	-> Control signals from previous RGB LED board,
J101-3	BLU-WHT	-> WOZ Single GI RGB LED Board #18, J102
J101-4	WHT-BLU	->
J101-5	BLK	Ground (cable shield)

J102 RGB LED Control

J102-1	BLU	->
J102-2	WHT	-> Control signals to next RGB LED board,
J102-3	BLU-WHT	-> WOZ Single GI RGB LED Board #19, J101
J102-4	WHT-BLU	->
J102-5	BLK	Ground (cable shield)

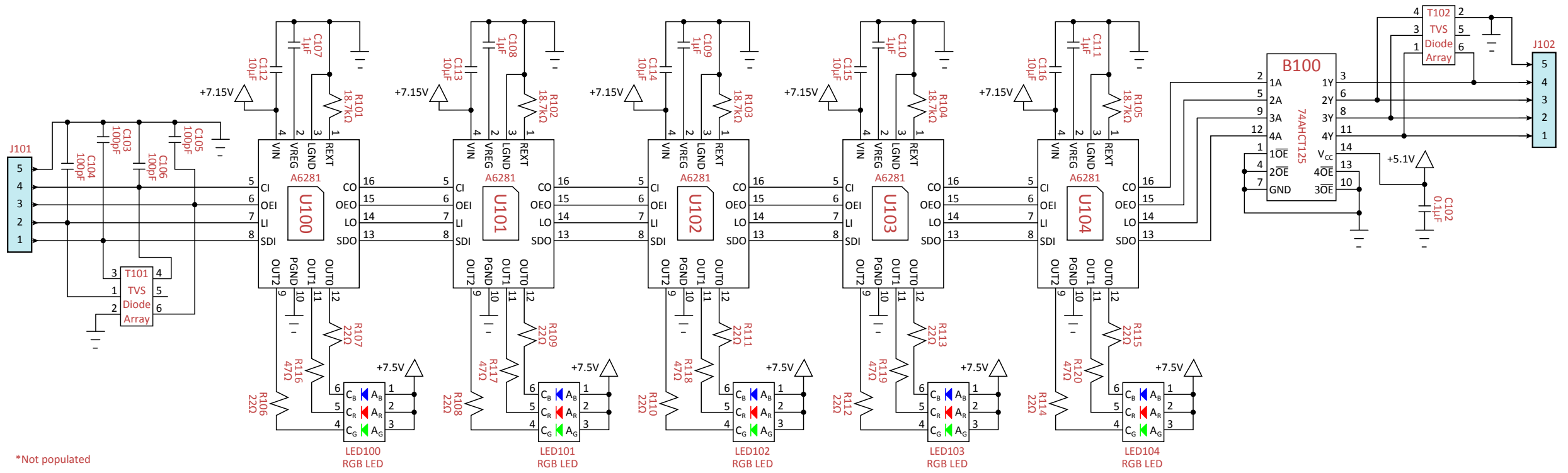
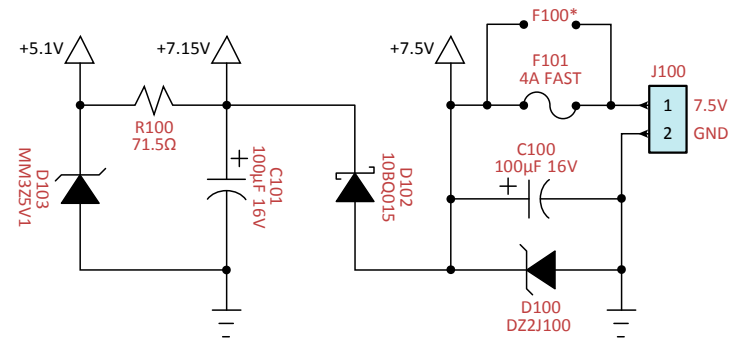
Note: All RGB LED Board connections to J100 pass through an in-line connector mounted in back panel of Cabinet PCB Chassis Assembly.



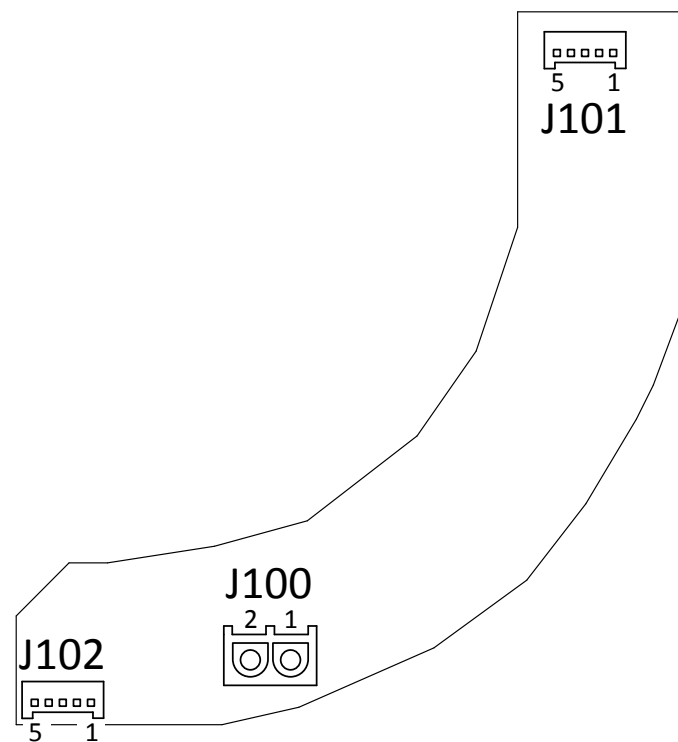
WOZ TNPLH RGB LED Board (WOZLED9)
15-0023-09, Revision 1.2

Component(s)	Part Number	Description
B100	141-0019-0S	Quad Bus Buffer Gates w/3-State Outputs, 74AHCT125, QFN-14 SMT
C100, C101	109-100M-016	Capacitor, Elect (Radial), 100μF, 16V, 20%
C102	103-104K-016	Capacitor, MLCC, 0603 SMT, 0.1μF, 16V, 10%
C103-C106	103-101J-050	Capacitor, MLCC, 0603 SMT, 100pF, 50V, 5%
C107-C111	103-105Z-016	Capacitor, MLCC, 0603 SMT, 1μF, 16V, +80%, -20%
C112-C116	100-106K-00	Capacitor, MLCC, 0805 SMT, 10μF, 16V, 10%
D100	110-0009-0S	Diode, DZ2J100, SMT, Zener, 10V, 200mW
D102	110-0004-0S	Diode, 10BQ015, SMT, Schottky Rectifier, 1A
D103	110-0010-0S	Diode, MM3Z5V1T1, SMT, Zener, 5.1V, 200mW
F100		Not Populated
F101	170-3204-FS	Fuse, Fast, 1206 SMT, 4A, 32V
LED100-LED104	24-0016-00	LED, SMT, High-Power RGB, 624/527/470nm
R100	122-71P5-102	Resistor, 0603 SMT, 71.5Ω, 0.1W, 1%
R101-R105	122-18K7-102	Resistor, 0603 SMT, 18.7kΩ, 0.1W, 1%
R106-R115	122-0022-104	Resistor, 0603 SMT, 22Ω, 0.1W, 5%
R116-R120	122-0047-104	Resistor, 0603 SMT, 47Ω, 0.1W, 5%
T101, T102	141-0017-0S	RailClamp TVS Diode Array, RClamp0504F, SC70-6L SMT
U100-U104	140-0001-0S	3-Ch Const Current LED Drvr, A6281, 16-QFN
J100	30-2005-00	Header, Male, 2-pin, 6.35mm
J101, J102	30-2001-00	Header, Male, 5-pin, 2mm

15-0023-09, Revision 1.2



*Not populated



WOZ TNPLH RGB LED Board (WOZLED9), 15-0023-09

Connector Pin-outs, *Revision 1.2*

J100 Power Input

J100-1	VIO	+7.5VDC from 7.5VDC Power Supply or UPS Board, J4-3
J100-2	BLK	Ground from 7.5VDC Power Supply or UPS Board, J4-6

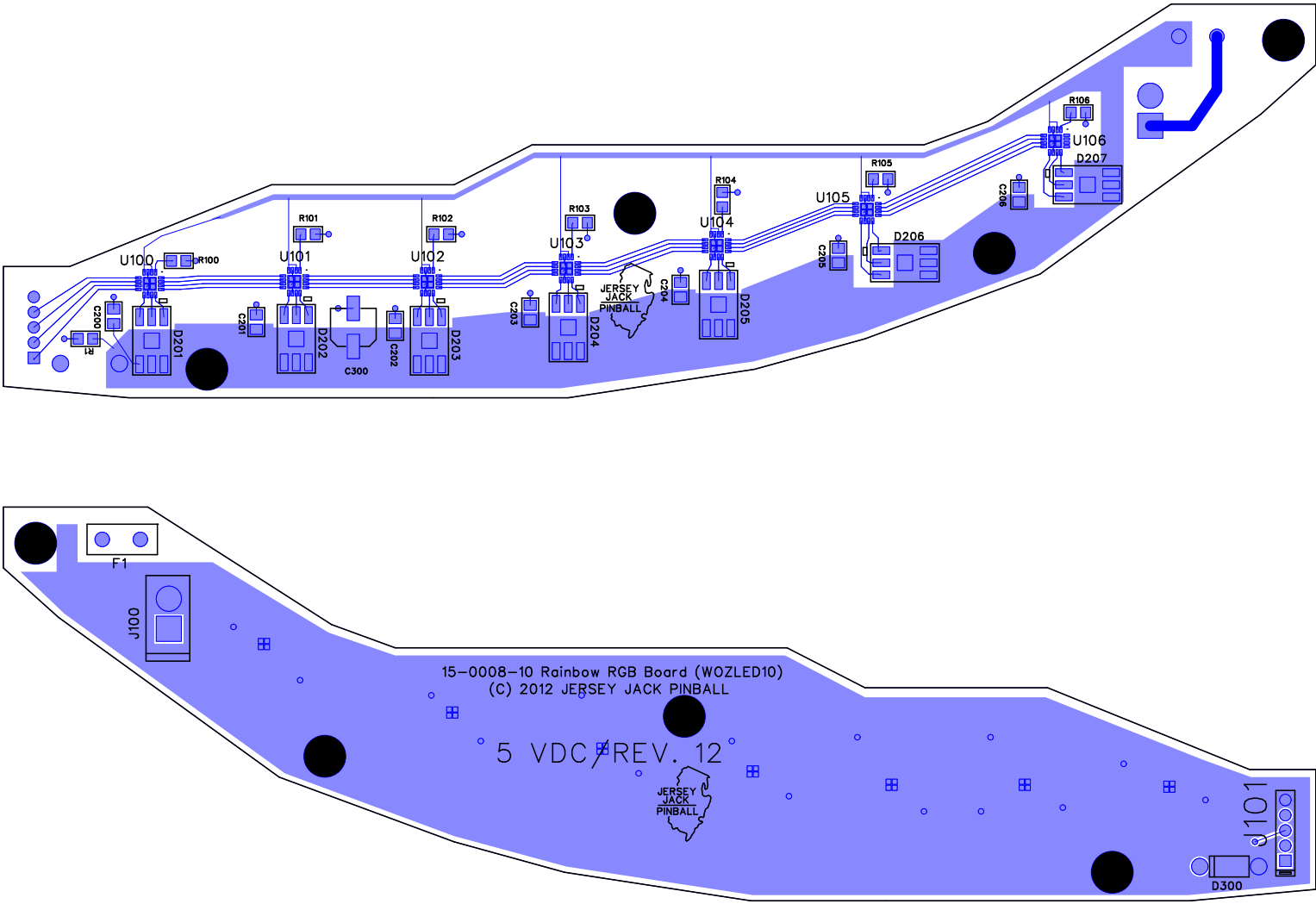
J101 RGB LED Control

J101-1	BLU	->
J101-2	WHT	-> Control signals from previous RGB LED board,
J101-3	BLU-WHT	-> WOZ Single GI RGB LED Board #18, J102
J101-4	WHT-BLU	->
J101-5	BLK	Ground (cable shield)

J102 RGB LED Control

J102-1	BLU	->
J102-2	WHT	-> Control signals to next RGB LED board,
J102-3	BLU-WHT	-> WOZ Single GI RGB LED Board #19, J101
J102-4	WHT-BLU	->
J102-5	BLK	Ground (cable shield)

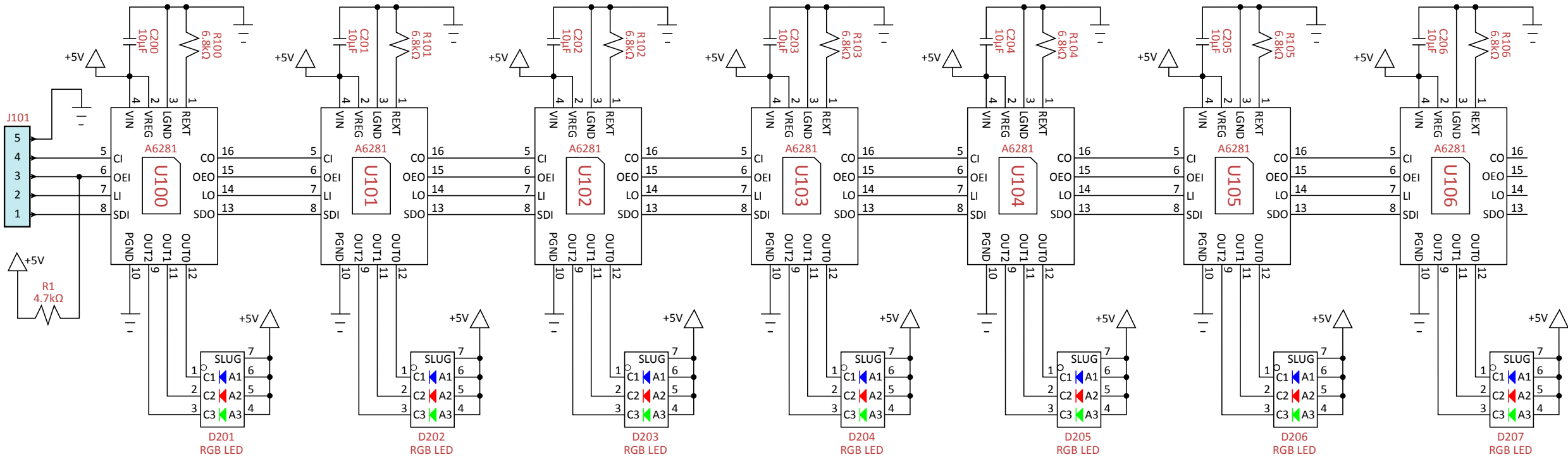
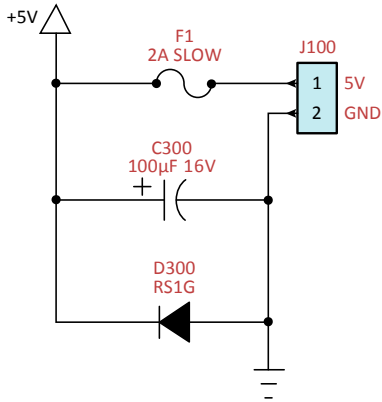
Note: All RGB LED Board connections to J100 pass through an in-line connector mounted in back panel of Cabinet PCB Chassis Assembly.

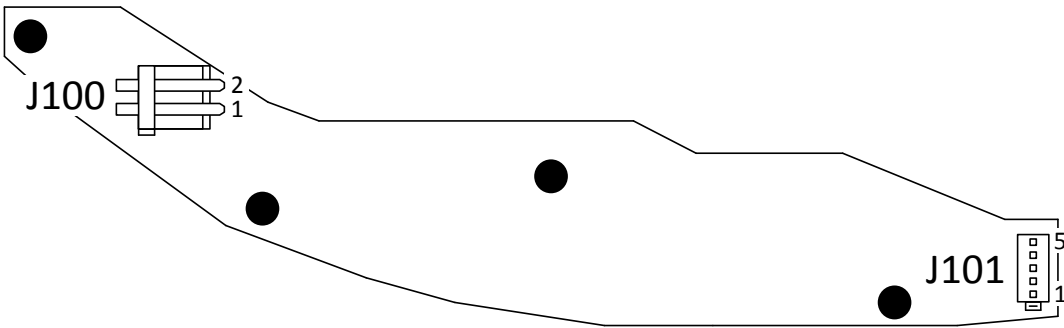


WOZ Rainbow RGB LED Board (WOZLED10)
15-0008-10, Revision 12
(games manufactured before Sep 4, 2013)

Component(s)	Part Number	Description
C200-C206	100-106M-016	Capacitor, MLCC, 0805 SMT, 10μF, 16V, 20%
C300	109-107M-016	Capacitor, Elect (SMT), 100μF, 16V, 20%
D200-D207	24-0004-00	LED, SMT, High-Power RGB, 624/525/450nm
D300	110-5001-0S	Diode, RS1G, SMT, 400V, 1A, 150ns
F1	170-0302-ST	Fuse, Slow, Radial, Leaded, 2A, 300V
R1	120-04K7-334	Resistor, 0805 SMT, 4.7kΩ, 0.33W, 5%
R100-R106	120-06K8-334	Resistor, 0805 SMT, 6.8kΩ, 0.33W, 5%
U100-U106	140-0001-0S	3-Ch Const Current LED Drvr, A6281, 16-QFN
J100	30-2004-02R	Header, Male, 2-pin, Rt Angle, 3.96mm
J101	30-2001-00	Header, Male, 5-pin, 2mm

WOZ Rainbow
RGB LED Board (WOZLED10)
15-0008-10, Revision 12





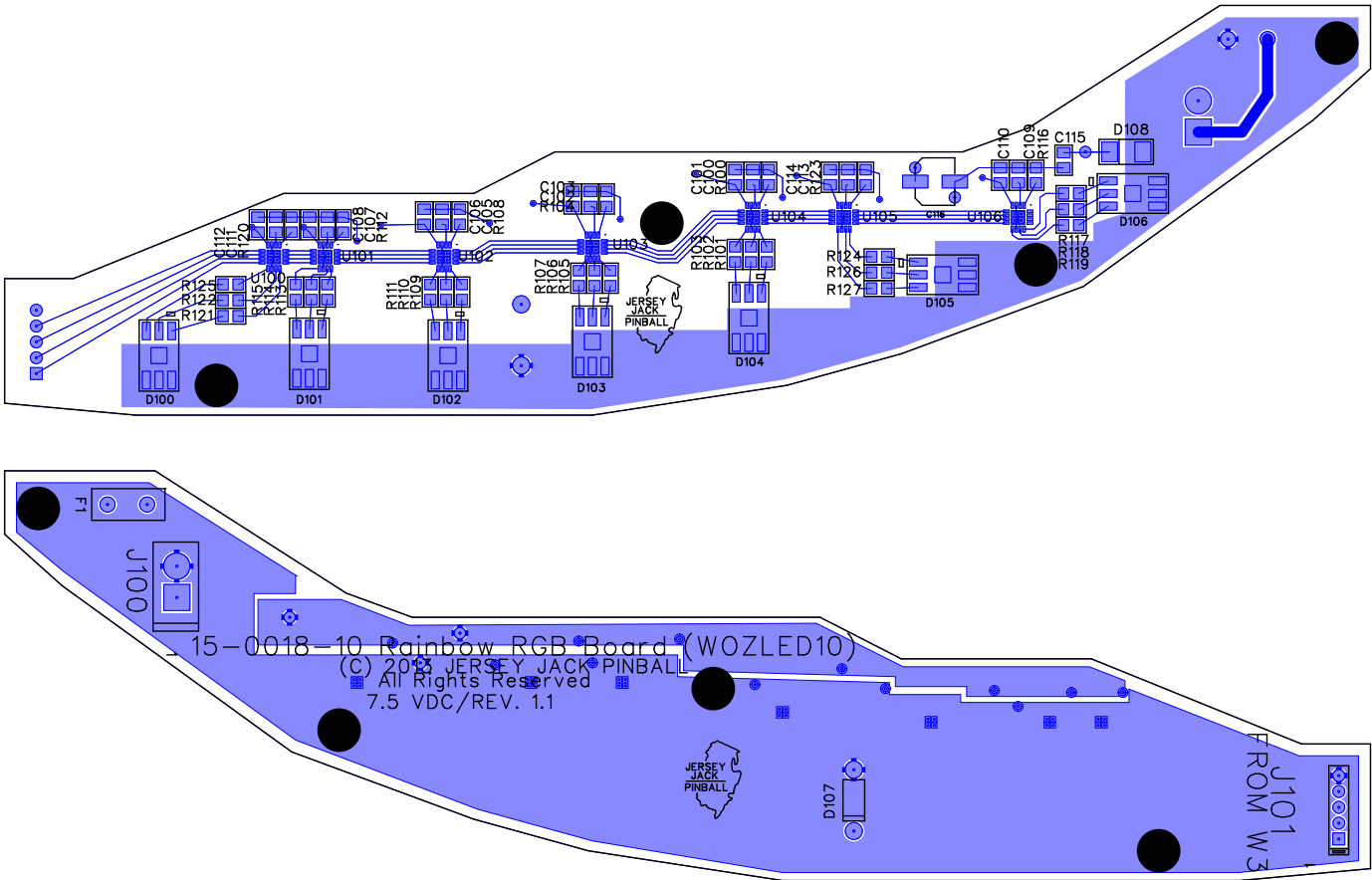
WOZ Rainbow RGB LED Board (WOZLED10), 15-0008-10
Connector Pin-outs, *Revision 12*

J100 Power Input

J100-1	VIO	+5VDC from 5VDC Power Supply
J100-2	BLK	Ground from 5VDC Power Supply

J101 RGB LED Control

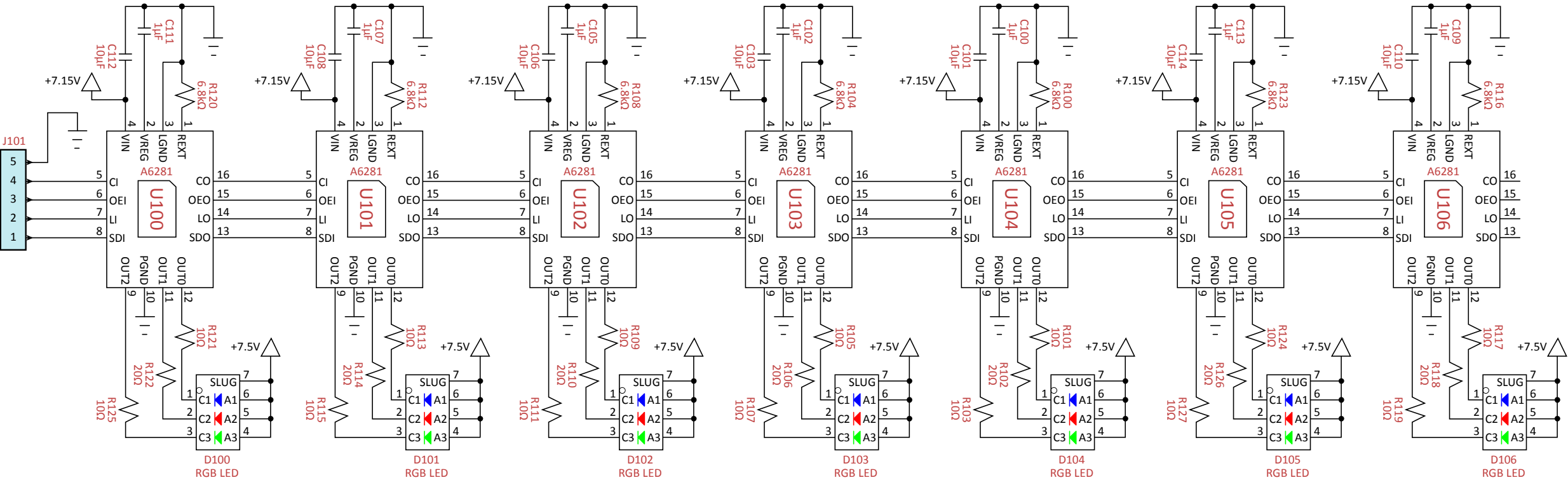
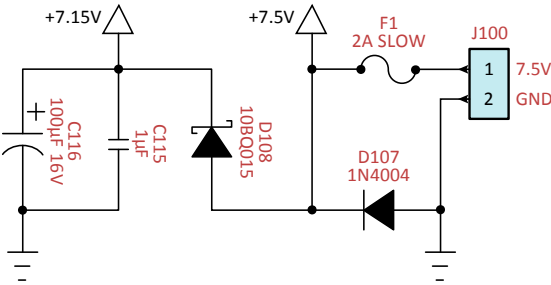
J101-1	BLU	->
J101-2	WHT	-> Control signals from previous RGB LED board,
J101-3	BLU-WHT	-> WOZ Lion RGB LED Board (WOZLED3), J102
J101-4	WHT-BLU	->
J101-5	BLK	Ground (cable shield)

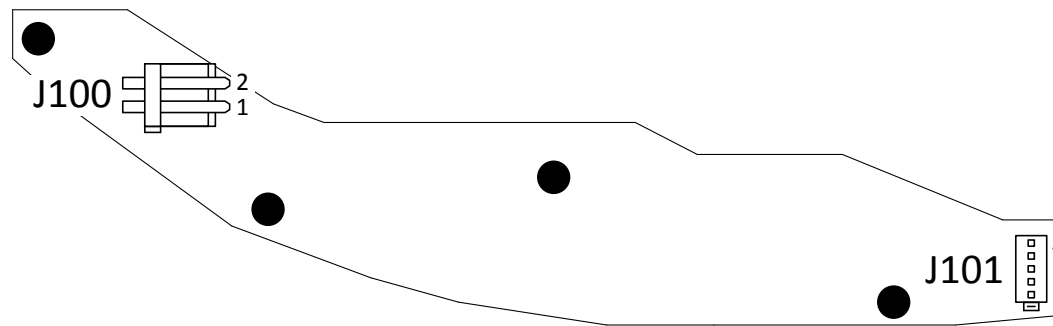


WOZ Rainbow RGB LED Board (WOZLED10)
15-0018-10, Revision 1.1
(games manufactured on/after Sep 4, 2013)

Component(s)	Part Number	Description
C100, C102, C105, C107, C109, C111, C113, C115	100-105K-016	Capacitor, MLCC, 0805 SMT, 1μF, 16V, 10%
C101, C103, C106, C108, C110, C112, C114	100-106M-016	Capacitor, MLCC, 0805 SMT, 10μF, 16V, 20%
C116	109-107M-016	Capacitor, Elect (SMT), 100μF, 16V, 20%
D100-D106	24-0004-00	LED, SMT, High-Power RGB, 624/525/450nm
D107	110-0002-0T	Diode, 1N4004, 400V, 1A
D108	110-0004-0S	Diode, 10BQ015, SMT, Schottky Rectifier, 1A
F1	170-0302-ST	Fuse, Slow, Radial, Leaded, 2A, 300V
R100, R104, R108, R112, R116, R120, R123	120-06K8-334	Resistor, 0805 SMT, 6.8kΩ, 0.33W, 5%
R101, R103, R105, R107, R109, R111, R113, R115, R117, R119, R121, R124, R125, R127	120-0010-254	Resistor, 0805 SMT, 10Ω, 0.25W, 5%
R102, R106, R110, R114, R118, R122, R126	120-0020-254	Resistor, 0805 SMT, 20Ω, 0.25W, 5%
U100-U106	140-0001-0S	3-Ch Const Current LED Drvr, A6281, 16-QFN
J100	30-2004-02R	Header, Male, 2-pin, Rt Angle, 3.96mm
J101	30-2001-00	Header, Male, 5-pin, 2mm

WOZ Rainbow
RGB LED Board (WOZLED10)
15-0018-10, Revision 1.1





WOZ Rainbow RGB LED Board (WOZLED10), 15-0018-10

Connector Pin-outs, *Revision 1.1*

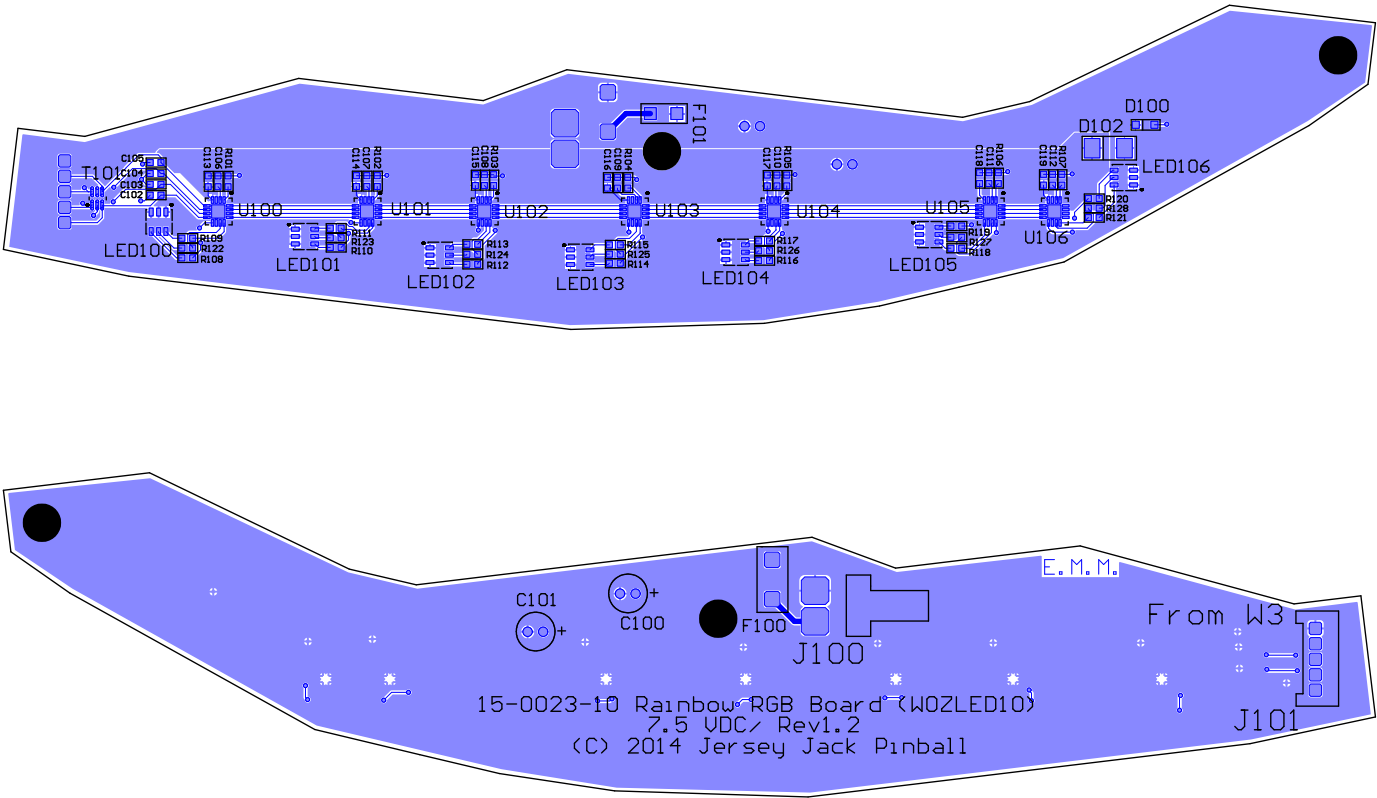
J100 Power Input

J100-1	VIO	+7.5VDC from 7.5VDC Power Supply or UPS Board, J4-1
J100-2	BLK	Ground from 7.5VDC Power Supply or UPS Board, J4-4

J101 RGB LED Control

J101-1	BLU	->
J101-2	WHT	-> Control signals from previous RGB LED board,
J101-3	BLU-WHT	-> WOZ Lion RGB LED Board (WOZLED3), J102
J101-4	WHT-BLU	->
J101-5	BLK	Ground (cable shield)

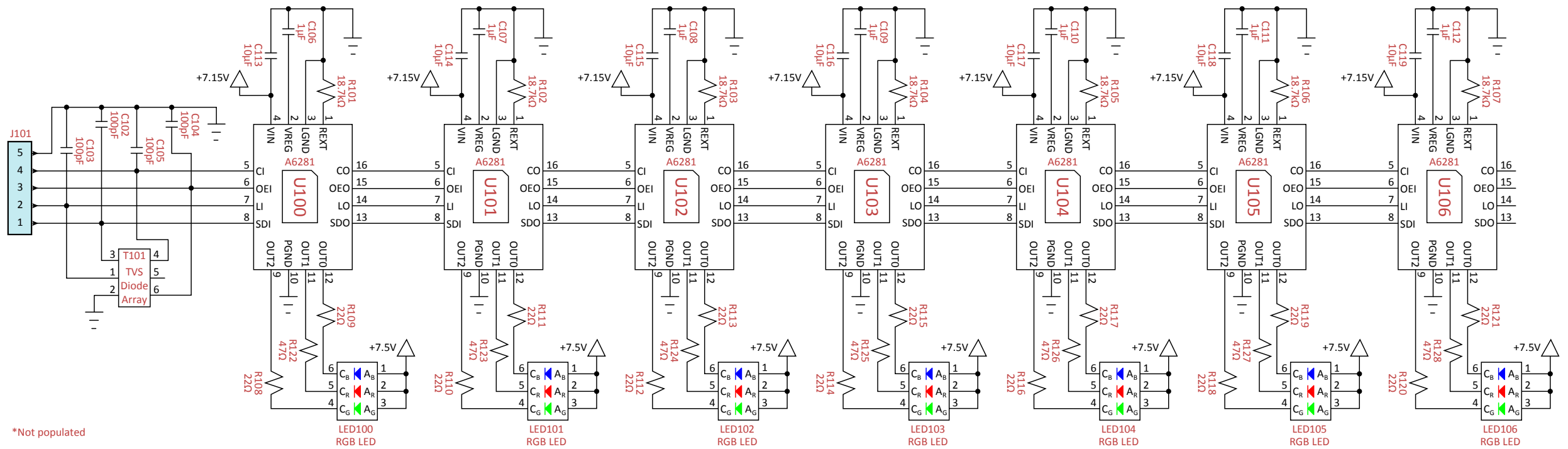
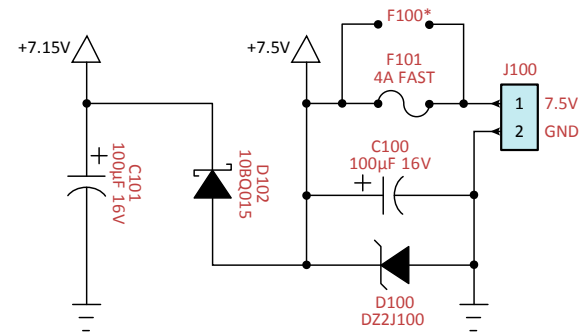
Note: All RGB LED Board connections to J100 pass through an in-line connector mounted in back panel of Cabinet PCB Chassis Assembly.



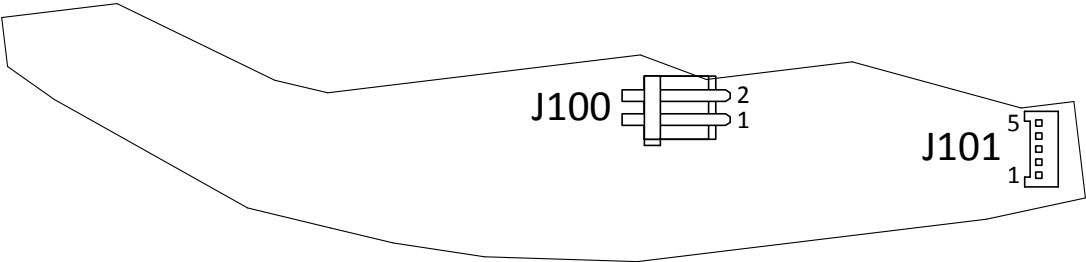
WOZ Rainbow RGB LED Board (WOZLED10)
15-0023-10, Revision 1.2

Component(s)	Part Number	Description
C100, C101	109-100M-016	Capacitor, Elect (Radial), 100μF, 16V, 20%
C102-C105	103-101J-050	Capacitor, MLCC, 0603 SMT, 100pF, 50V, 5%
C106-C112	103-105Z-016	Capacitor, MLCC, 0603 SMT, 1μF, 16V, +80%, -20%
C113-C119	100-106K-00	Capacitor, MLCC, 0805 SMT, 10μF, 16V, 10%
D100	110-0009-0S	Diode, DZ2J100, SMT, Zener, 10V, 200mW
D102	110-0004-0S	Diode, 10BQ015, SMT, Schottky Rectifier, 1A
F100		Not Populated
F101	170-3204-FS	Fuse, Fast, 1206 SMT, 4A, 32V
LED100-LED106	24-0016-00	LED, SMT, High-Power RGB, 624/527/470nm
R101-R107	122-18K7-102	Resistor, 0603 SMT, 18.7kΩ, 0.1W, 1%
R108-R121	122-0022-104	Resistor, 0603 SMT, 22Ω, 0.1W, 5%
R122-R128	122-0047-104	Resistor, 0603 SMT, 47Ω, 0.1W, 5%
T101	141-0017-0S	RailClamp TVS Diode Array, RClamp0504F, SC70-6L SMT
U100-U106	140-0001-0S	3-Ch Const Current LED Drvr, A6281, 16-QFN
J100	30-2004-02R	Header, Male, 2-pin, Rt Angle, 3.96mm
J101	30-2001-00	Header, Male, 5-pin, 2mm

WOZ Rainbow
RGB LED Board (WOZLED10)
15-0023-10, Revision 1.2



*Not populated



WOZ Rainbow RGB LED Board (WOZLED10), 15-0023-10
Connector Pin-outs, *Revision 1.2*

J100 Power Input

J100-1	VIO	+7.5VDC from 7.5VDC Power Supply or UPS Board, J4-1
J100-2	BLK	Ground from 7.5VDC Power Supply or UPS Board, J4-4

J101 RGB LED Control

J101-1	BLU	->
J101-2	WHT	-> Control signals from previous RGB LED board,
J101-3	BLU-WHT	-> WOZ Lion RGB LED Board (WOZLED3), J102
J101-4	WHT-BLU	->
J101-5	BLK	Ground (cable shield)

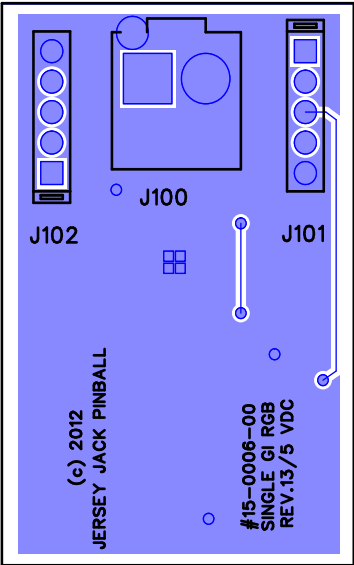
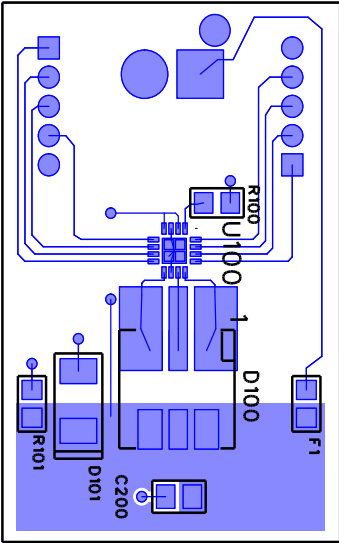
Note: All RGB LED Board connections to J100 pass through an in-line connector mounted in back panel of Cabinet PCB Chassis Assembly.

WOZ Single GI RGB LED Board

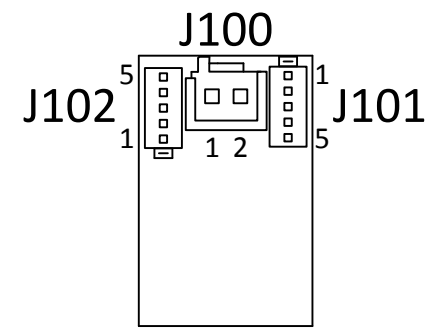
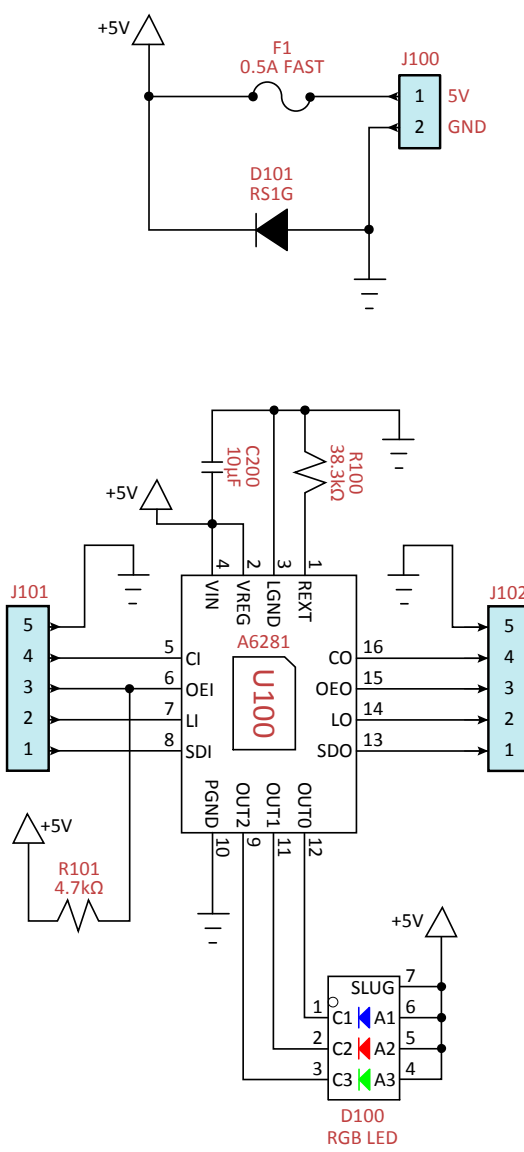
15-0006-00, Revision 13

(games manufactured before Sep 4, 2013)

Component(s)	Part Number	Description
C200	100-106M-016	Capacitor, MLCC, 0805 SMT, 10μF, 16V, 20%
D100	24-0007-00	LED, SMT, RGB, 470/527/620nm
D101	110-5001-0S	Diode, RS1G, SMT, 400V, 1A, 150ns
R100	120-38K3-131	Resistor, 0805 SMT, 38.3kΩ, 0.125W, 0.5%
R101	120-04K7-334	Resistor, 0805 SMT, 4.7kΩ, 0.33W, 5%
F1	170-32P5-FS	Fuse, Fast, 0805 SMT, 0.5A, 32V
U100	140-0001-0S	3-Ch Const Current LED Drvr, A6281, 16-QFN
J100	30-2005-00	Header, Male, 2-pin, 6.35mm
J101, J102	30-2001-00	Header, Male, 5-pin, 2mm



WOZ Single GI
RGB LED Board
15-0006-00, Revision 13



WOZ Single GI RGB LED Board
15-0006-00
Connector Pin-outs, Revision 13

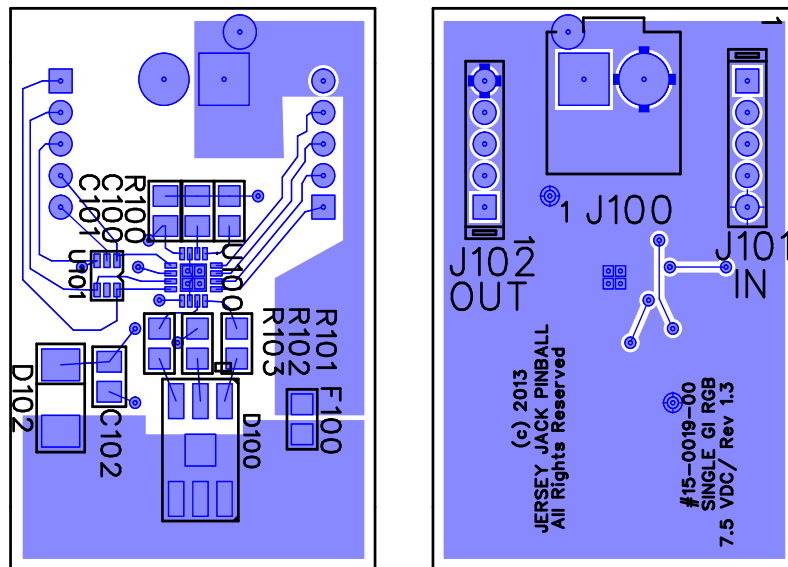
J100 Power Input		
J100-1	VIO	+5VDC from 5VDC Power Supply
J100-2	BLK	Ground from 5VDC Power Supply
J101 RGB LED Control		
J101-1	BLU	->
J101-2	WHT	-> Control signals from previous
J101-3	BLU-WHT	-> RGB LED board
J101-4	WHT-BLU	->
J101-5	BLK	Ground (cable shield)
J102 RGB LED Control		
J102-1	BLU	->
J102-2	WHT	-> Control signals to next RGB
J102-3	BLU-WHT	-> LED board
J102-4	WHT-BLU	->
J102-5	BLK	Ground (cable shield)

WOZ Single GI RGB LED Board

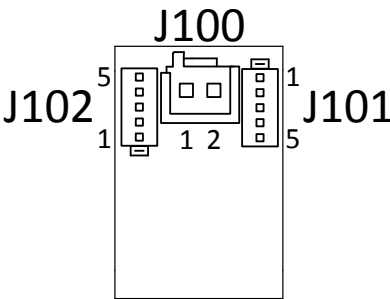
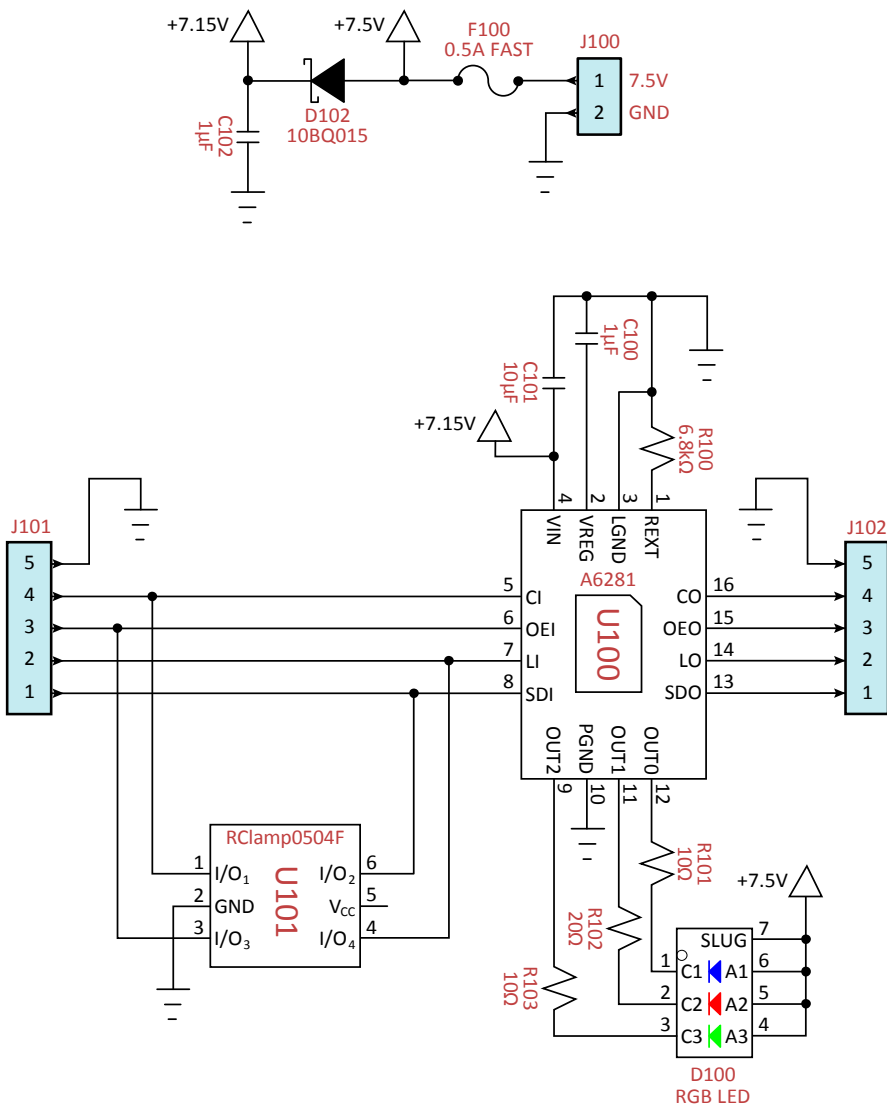
15-0019-00, Revision 1.3

(games manufactured Sep 4, 2013 - Mar 1, 2014)

Component(s)	Part Number	Description
C100, C102	100-105K-016	Capacitor, MLCC, 0805 SMT, 1μF, 16V, 10%
C101	100-106M-016	Capacitor, MLCC, 0805 SMT, 10μF, 16V, 20%
D100	24-0004-00	LED, SMT, High-Power RGB, 624/525/450nm
D102	110-0004-0S	Diode, 10BQ015, SMT, Schottky Rectifier, 1A
R100	120-06K8-334	Resistor, 0805 SMT, 6.8kΩ, 0.33W, 5%
R101, R103	120-0010-254	Resistor, 0805 SMT, 10Ω, 0.25W, 5%
R102	120-0020-254	Resistor, 0805 SMT, 20Ω, 0.25W, 5%
F100	170-32P5-FS	Fuse, Fast, 0805 SMT, 0.5A, 32V
U100	140-0001-0S	3-Ch Const Current LED Drvr, A6281, 16-QFN
U101	141-0017-0S	RailClamp TVS Diode Array, RClamp0504F, SC70-6L SMT
J100	30-2005-00	Header, Male, 2-pin, 6.35mm
J101, J102	30-2001-00	Header, Male, 5-pin, 2mm



WOZ Single GI
RGB LED Board
15-0019-00, Revision 1.3



WOZ Single GI RGB LED Board
15-0019-00
Connector Pin-outs, Revision 1.3

J100 Power Input

J100-1	VIO	+7.5VDC from 7.5VDC Power Supply or UPS Board, J4-1, 2, or 3
J100-2	BLK	Ground from 7.5VDC Power Supply or UPS Board, J4-4, 5 or 6

J101 RGB LED Control

J101-1	BLU	->
J101-2	WHT	-> Control signals from previous
J101-3	BLU-WHT	-> RGB LED board
J101-4	WHT-BLU	->
J101-5	BLK	Ground (cable shield)

J102 RGB LED Control

J102-1	BLU	->
J102-2	WHT	-> Control signals to next RGB
J102-3	BLU-WHT	-> LED board
J102-4	WHT-BLU	->
J102-5	BLK	Ground (cable shield)

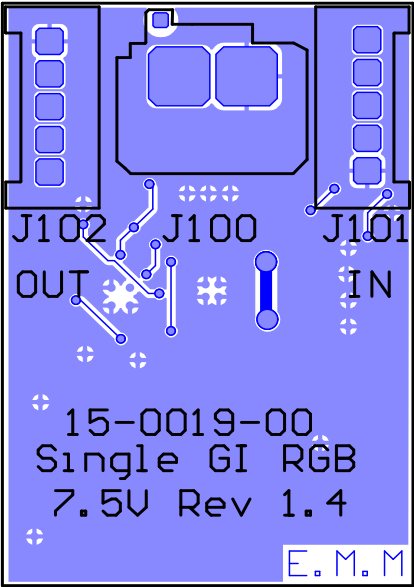
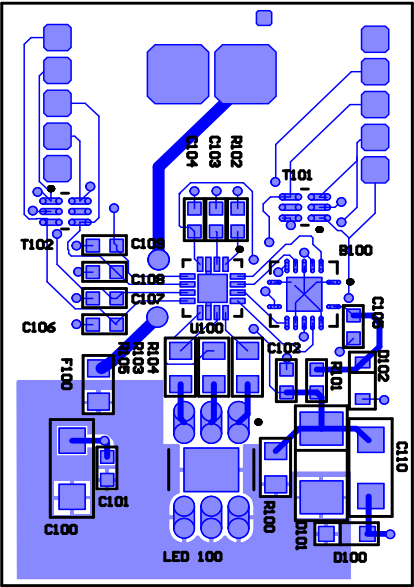
Note: All Single GI Board connections to J100 pass through an in-line connector mounted in back panel of Cabinet PCB Chassis Assembly.

WOZ Single GI RGB LED Board

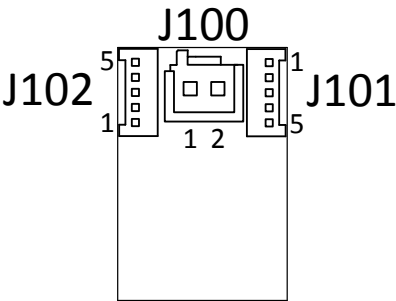
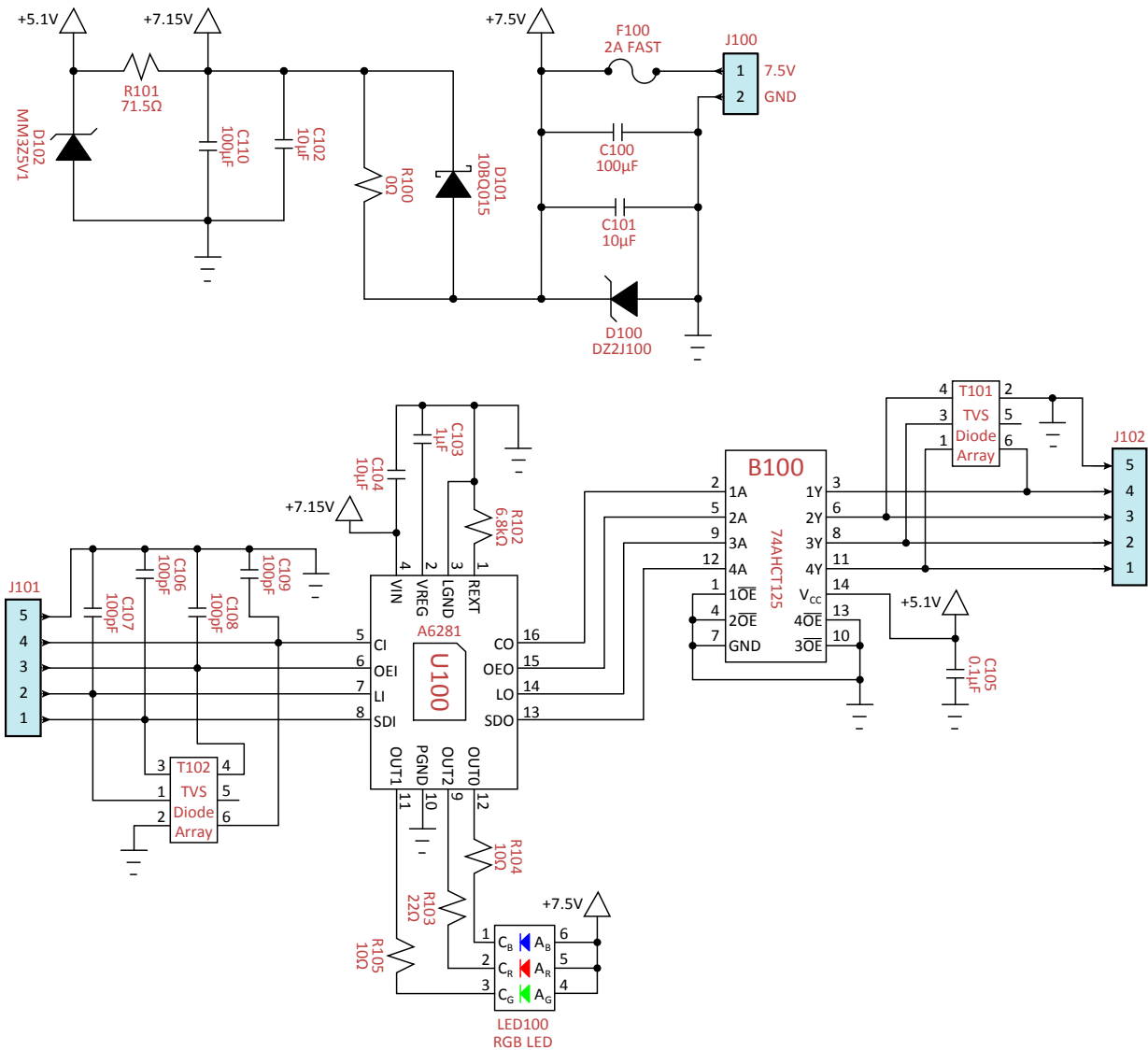
15-0019-00, Revision 1.4

(games manufactured on/after Mar 1, 2014)

Component(s)	Part Number	Description
B100	141-0019-0S	Quad Bus Buffer Gates w/3-State Outputs, 74AHCT125, QFN-14 SMT
C100, C110	102-107M-010	Capacitor, MLCC, 1206 SMT, 100µF, 10V, 20%
C101, C102, C104	103-106M-016	Capacitor, MLCC, 0603 SMT, 10µF, 16V, 20%
C103	103-105Z-016	Capacitor, MLCC, 0603 SMT, 1µF, 16V, +80%, -20%
C105	103-104K-016	Capacitor, MLCC, 0603 SMT, 0.1µF, 16V, 10%
C106-C109	103-101J-050	Capacitor, MLCC, 0603 SMT, 100pF, 50V, 5%
D100	110-0009-0S	Diode, DZ2J100, SMT, Zener, 10V, 200mW
D101	110-0004-0S	Diode, 10BQ015, SMT, Schottky Rectifier, 1A
D102	110-0010-0S	Diode, MM3Z5V1T1, SMT, Zener, 5.1V, 200mW
F100	170-3202-FS	Fuse, Fast, 0805 SMT, 2A, 32V
LED100	24-0015-00	LED, SMT, High-Power RGB, 636/525/470nm
R100	120-0000-120	Resistor, 0805 SMT, 0Ω, 0.125W, Jumper
R101	122-71P5-102	Resistor, 0603 SMT, 71.5Ω, 0.1W, 1%
R102	122-06K8-104	Resistor, 0603 SMT, 6.8kΩ, 0.1W, 5%
R103	120-0022-404	Resistor, 0805 SMT, 22Ω, 0.4W, 5%
R104, R105	120-0010-254	Resistor, 0805 SMT, 10Ω, 0.25W, 5%
T101, T102	141-0017-0S	RailClamp TVS Diode Array, RClamp0504F, SC70-6L SMT
U100	140-0001-0S	3-Ch Const Current LED Drvr, A6281, 16-QFN
J100	30-2005-00	Header, Male, 2-pin, 6.35mm
J101, J102	30-2001-00	Header, Male, 5-pin, 2mm



WOZ Single GI
RGB LED Board
15-0019-00, Revision 1.4



WOZ Single GI RGB LED Board
15-0019-00
Connector Pin-outs, Revision 1.4

J100 Power Input

J100-1	VIO	+7.5VDC from 7.5VDC Power Supply or UPS Board, J4-1, 2, or 3
J100-2	BLK	Ground from 7.5VDC Power Supply or UPS Board, J4-4, 5 or 6

J101 RGB LED Control

J101-1	BLU	->
J101-2	WHT	-> Control signals from previous
J101-3	BLU-WHT	-> RGB LED board
J101-4	WHT-BLU	->
J101-5	BLK	Ground (cable shield)

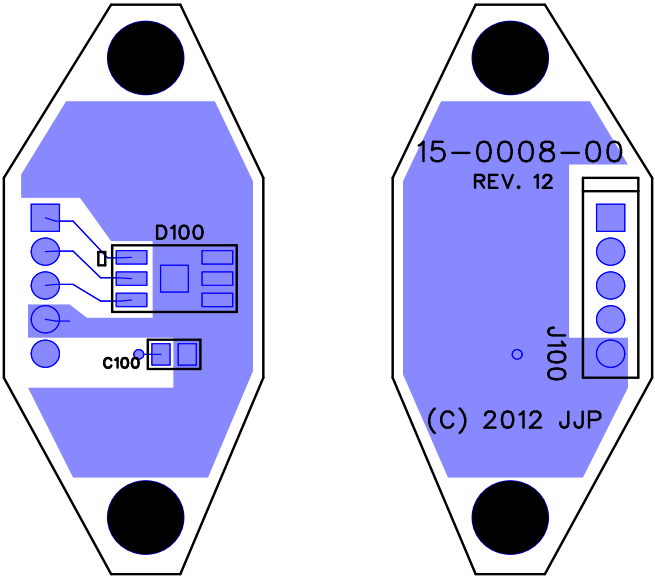
J102 RGB LED Control

J102-1	BLU	->
J102-2	WHT	-> Control signals to next RGB
J102-3	BLU-WHT	-> LED board
J102-4	WHT-BLU	->
J102-5	BLK	Ground (cable shield)

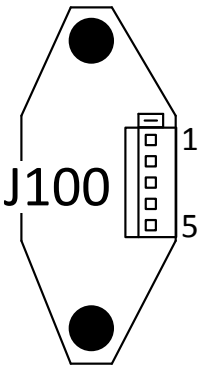
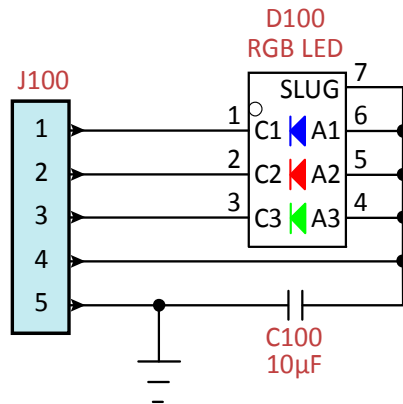
Note: All Single GI Board connections to J100 pass through an in-line connector mounted in back panel of Cabinet PCB Chassis Assembly.

WOZ Satellite RGB LED Board
15-0008-00, Revision 12

Component(s)	Part Number	Description
C100	100-106M-016	Capacitor, MLCC, 0805 SMT, 10µF, 16V, 20%
D100	24-0004-00	LED, SMT, High-Power RGB, 624/525/450nm
J100	30-2002-00	Header, Male, 5-pin, 2.54mm



**WOZ Satellite
RGB LED Board**
15-0008-00, *Revision 12*



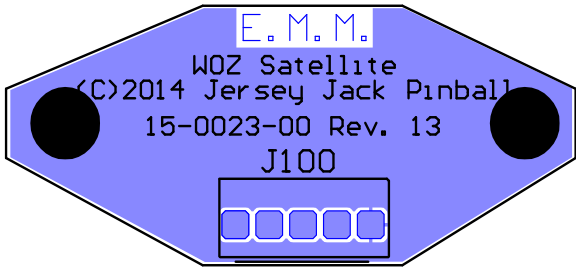
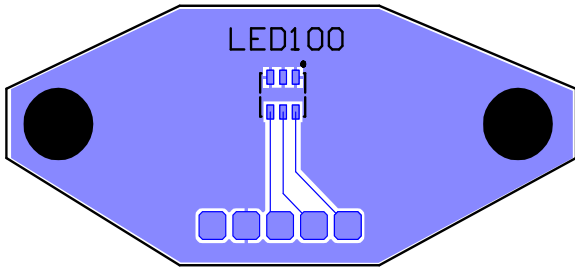
WOZ Satellite RGB LED Board
15-0008-00
Connector Pin-outs, *Revision 12*

J100 RGB LED Drive

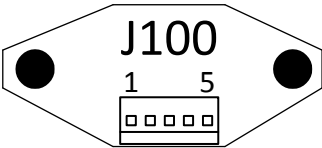
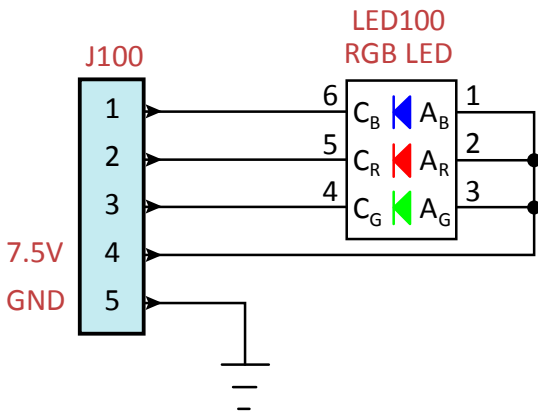
J100-1	BLU	->	Drive signals from WOZ multi-RGB
J100-2	WHT	->	LED board
J100-3	BLU-WHT	->	
J100-4	WHT-BLU		+5VDC or +7.5VDC from WOZ multi-RGB LED board
J100-5	BLK		Ground (cable shield)

WOZ Satellite RGB LED Board
15-0023-00, Revision 13

Component(s)	Part Number	Description
LED100	24-0016-00	LED, SMT, High-Power RGB, 624/527/470nm
J100	30-2002-00	Header, Male, 5-pin, 2.54mm



WOZ Satellite
RGB LED Board
15-0023-00, Revision 13



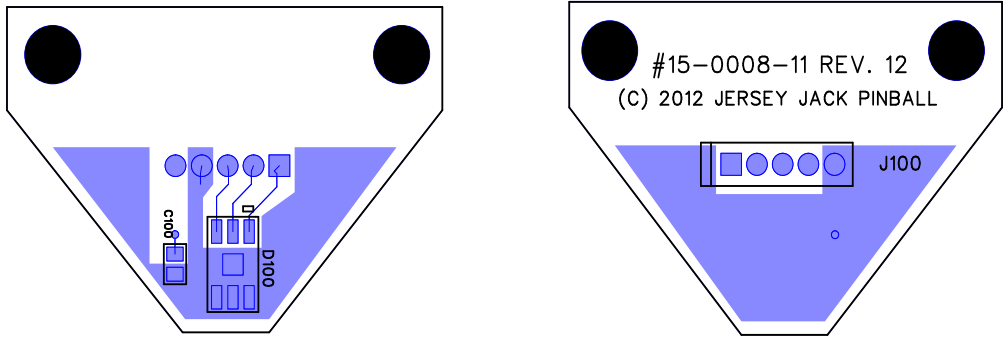
WOZ Satellite RGB LED Board
15-0023-00
Connector Pin-outs, Revision 13

J100 RGB LED Drive

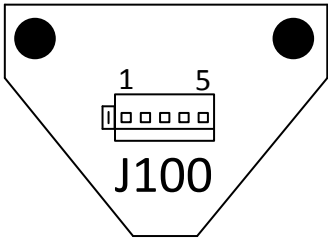
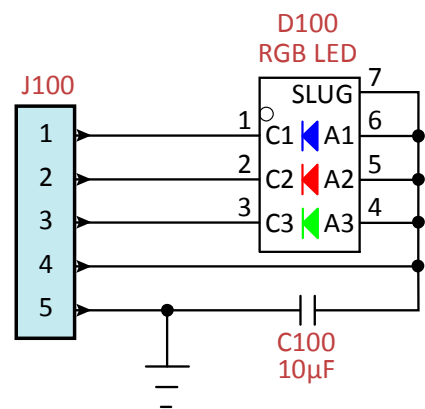
J100-1	BLU	->	Drive signals from WOZ multi-RGB
J100-2	WHT	->	LED board
J100-3	BLU-WHT	->	
J100-4	WHT-BLU		+5VDC or +7.5VDC from WOZ multi-RGB LED board
J100-5	BLK		Ground (cable shield)

WOZ 1-Bank Drop Target
Satellite RGB LED Board
15-0008-11, Revision 12

Component(s)	Part Number	Description
C100	100-106M-016	Capacitor, MLCC, 0805 SMT, 10µF, 16V, 20%
D100	24-0004-00	LED, SMT, High-Power RGB, 624/525/450nm
J100	30-2002-00	Header, Male, 5-pin, 2.54mm



**WOZ 1-Bank Drop Target
Satellite RGB LED Board**
15-0008-11, *Revision 12*



**WOZ 1-Bank Drop Target
Satellite RGB LED Board**
15-0008-11

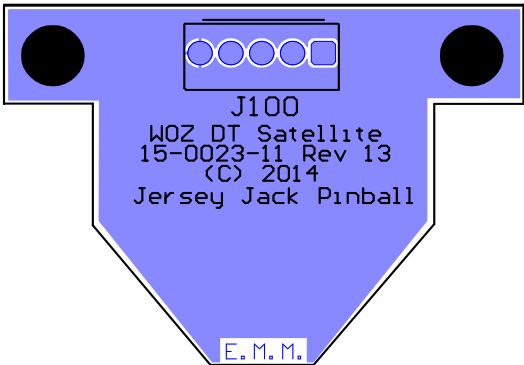
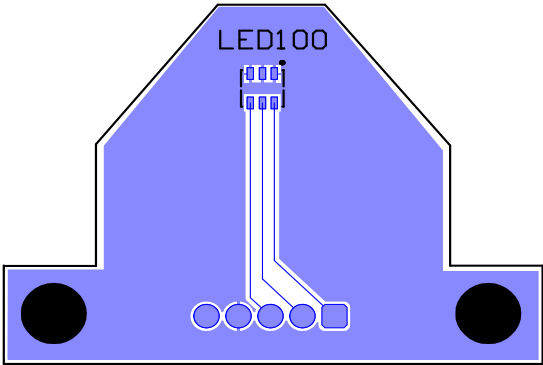
Connector Pin-outs, *Revision 12*

J100 RGB LED Drive

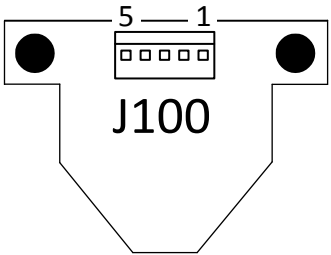
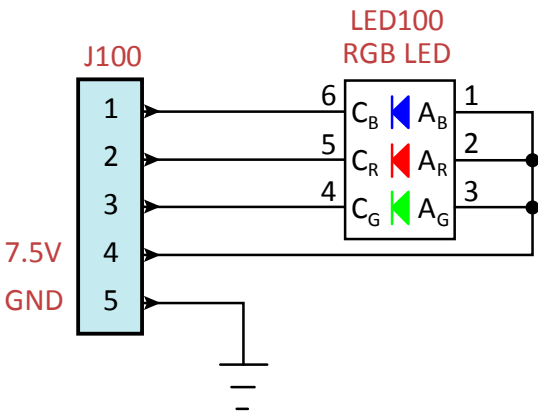
J100-1	BLU	->	Drive signals from WOZ multi-RGB
J100-2	WHT	->	LED board
J100-3	BLU-WHT	->	
J100-4	WHT-BLU		+5VDC or +7.5VDC from WOZ multi-RGB LED board
J100-5	BLK		Ground (cable shield)

WOZ 1-Bank Drop Target
Satellite RGB LED Board
15-0023-11, Revision 13

Component(s)	Part Number	Description
LED100	24-0016-00	LED, SMT, High-Power RGB, 624/527/470nm
J100	30-2002-00	Header, Male, 5-pin, 2.54mm



WOZ 1-Bank Drop Target
Satellite RGB LED Board
15-0023-11, Revision 13

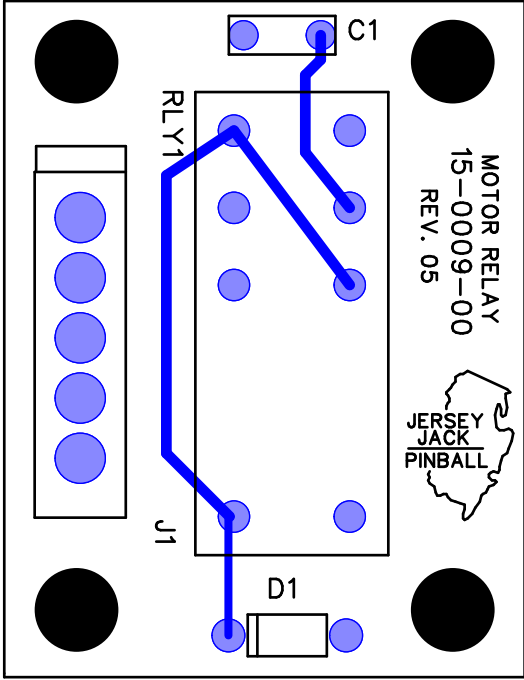


WOZ 1-Bank Drop Target
Satellite RGB LED Board
15-0023-11

Connector Pin-outs, Revision 13

J100 RGB LED Drive

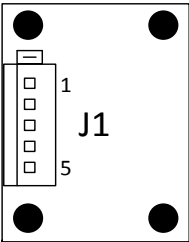
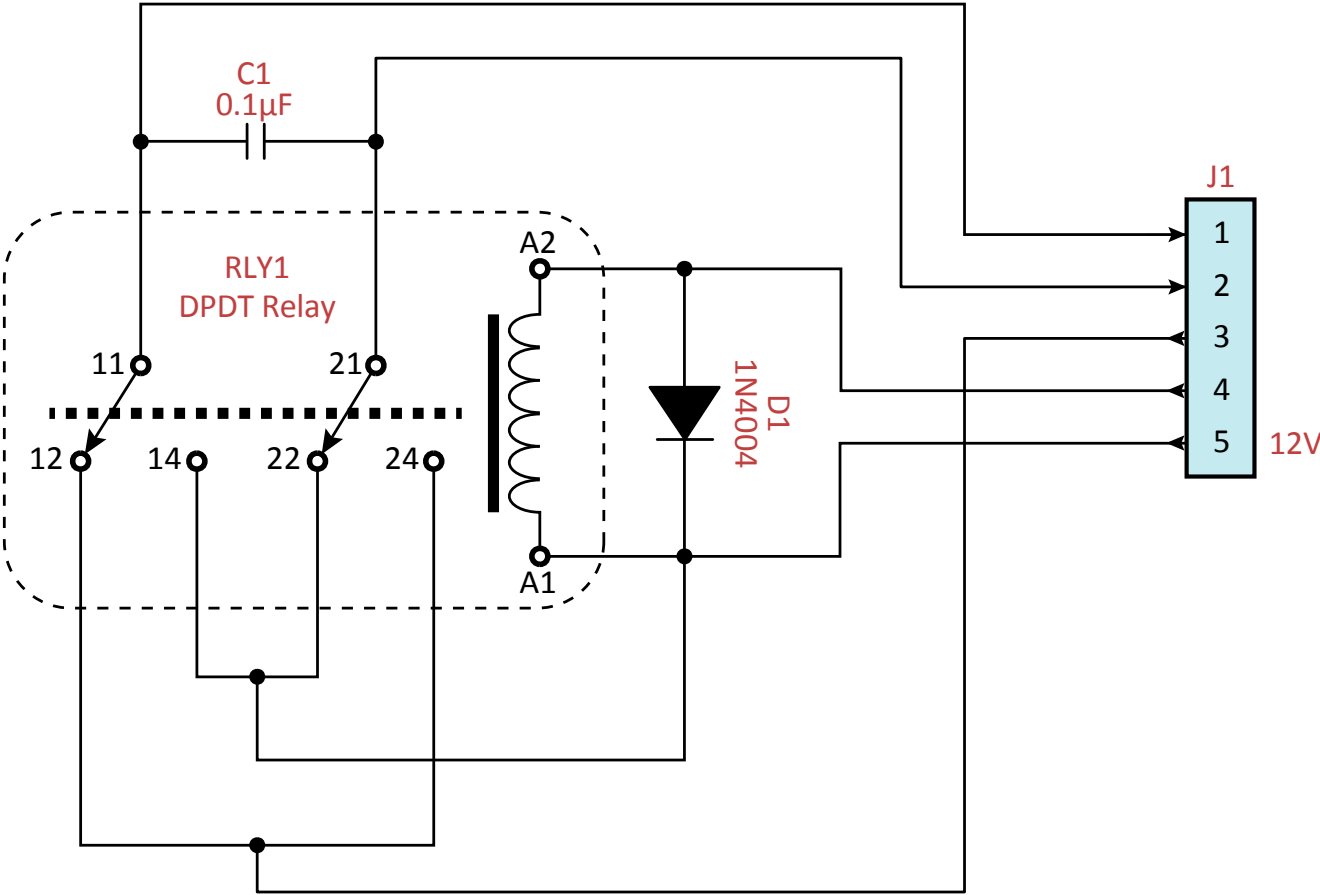
J100-1	BLU	->	Drive signals from WOZ multi-RGB
J100-2	WHT	->	LED board
J100-3	BLU-WHT	->	
J100-4	WHT-BLU		+7.5VDC from WOZ multi-RGB LED board
J100-5	BLK		Ground (cable shield)



Motor Relay Board 15-0009-00, Revision 5

Component(s)	Part Number	Description
C1	101-104K-100	Capacitor, MLCC, Leaded, 0.1μF, 100V, 10%
D1	110-0002-0T	Diode, 1N4004, 400V, 1A
RLY1	160-0000-0T	Relay, PCB, DPDT, 12VDC, 8A
J1	31-2505-05	Header, Male, 5-Pin, 3.96mm

Motor Relay Board
15-0009-00, Revision 5



Motor Relay Board, 15-0009-00
Connector Pin-outs, Revision 5

J1 Monkey Motor Control

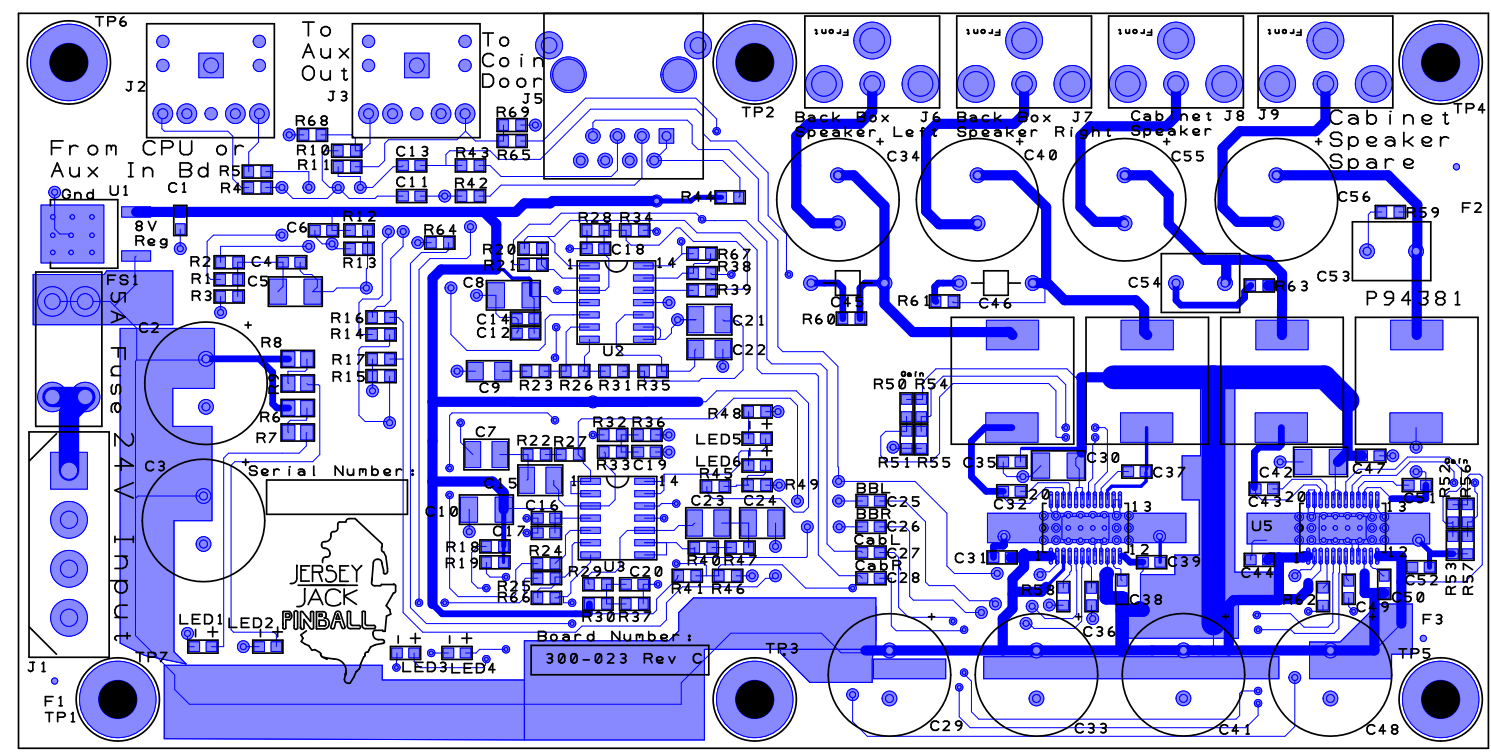
J1-1	RED	To monkey motor(behind playfield backboard)
J1-2	BLK	To monkey motor(behind playfield backboard)
J1-3	YEL-RED	Monkey Motor drive from I/O Board, J109-4
J1-4	YEL-ORN	Monkey Motor Relay drive from I/O Board, J109-6
J1-5	YEL	+12VDC from I/O Board, J109-1

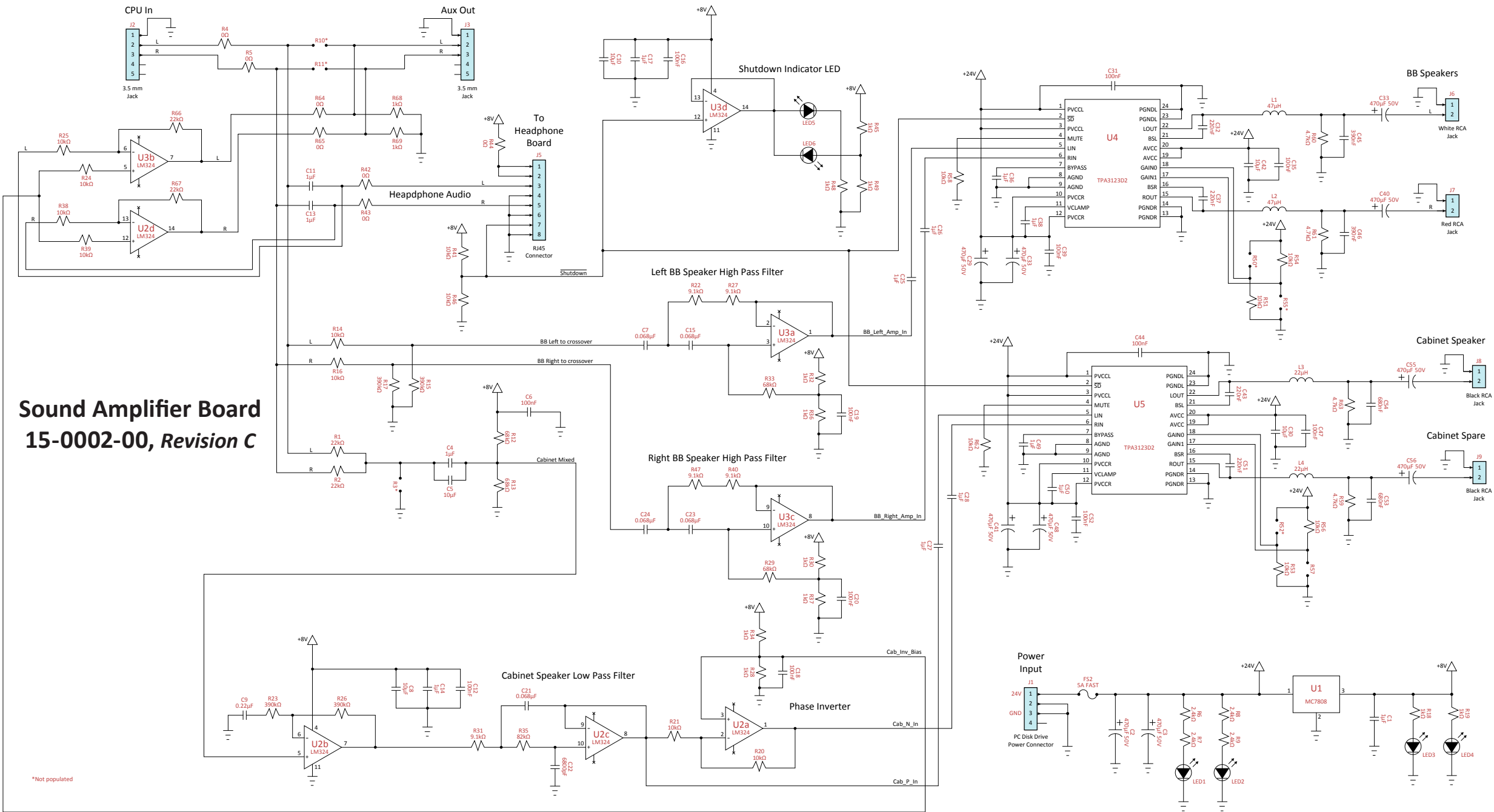
Note: Some Motor Relay Board connections to J1 pass through an in-line connector mounted in back panel of Cabinet PCB Chassis Assembly.

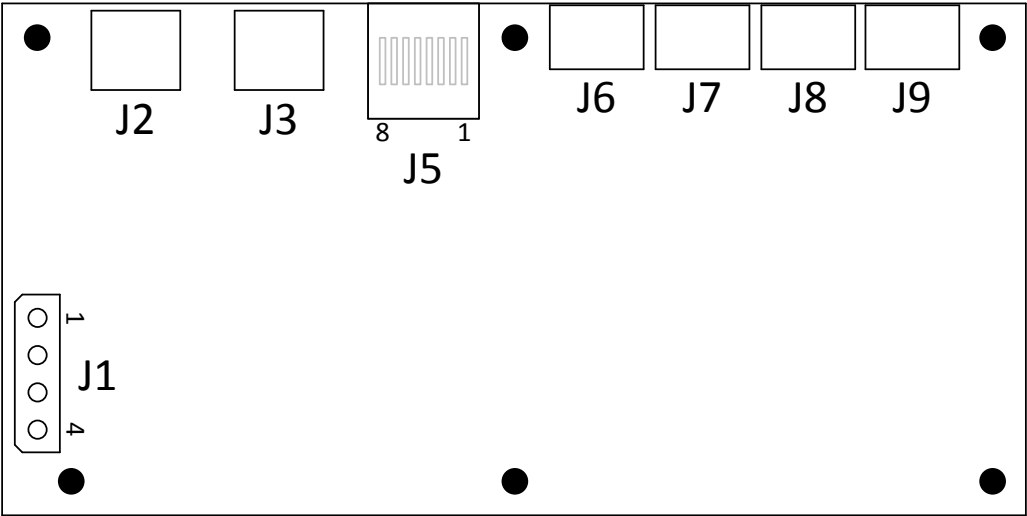
Sound Amplifier Board, 15-0002-00, Revision C

Component(s)	Part Number	Description
C1, C4, C11, C13, C14, C17, C25-C28, C36, C38, C49, C50	103-105K-025	Capacitor, MLCC, 0603 SMT, 1μF, 25V, 10%
C2, C3, C29, C33, C34, C40, C41, C48, C55, C56	109-470M-050	Capacitor, Elect (Radial), 470μF, 50V, 20%
C5, C8, C10, C30, C42	102-106M-050	Capacitor, MLCC, 1210 SMT, 10μF, 50V, 20%
C6, C12, C16, C18-C20, C31, C35, C39, C44, C47, C52	103-104K-050	Capacitor, MLCC, 0603 SMT, 100nF, 50V, 10%
C7, C15, C21, C23, C24	102-683G-016	Capacitor, MLCC, 1210 SMT, 0.068μF, 16V, 20%
C9	102-224M-016	Capacitor, MLCC, 1206 SMT, 0.22μF, 16V, 20%
C22	102-682G-050	Capacitor, MLCC, 1206 SMT, 6800pF, 50V, 2%
C32, C37, C43, C51	103-224K-050	Capacitor, MLCC, 0603 SMT, 220nF, 50V, 10%
C45, C46	104-394J-100	Capacitor, Polyester, Leaded, 390nF, 100V, 5%
C53, C54	104-684J-050	Capacitor, Polyester, Leaded, 680nF, 50V, 5%
FS1	22-8006-00	Fuse Holder, Mini Blade, 20A, 500V
FS1	170-3205-SB	Fuse, Fast-Acting, 5A, 32V, Mini Blade
L1, L2	190-0000-0S	Inductor, SMD, 470μH, 2.5A, 1kHz
L3, L4	190-0001-0S	Inductor, SMD, 22μH, 3.6A, 1kHz
LED1-LED5	24-0009-0S	LED, 0603 SMD, YEL/GRN, 572nm
LED6	24-0010-0S	LED, 0603 SMD, YEL, 589nm
R1, R2, R66, R67	122-022K-102	Resistor, 0603 SMT, 22kΩ, 0.1W, 5%
R4, R5, R42-R44, R64, R65	122-0000-100	Resistor, 0603 SMT, 0Ω, 0.1W
R6-R9	122-02K4-122	Resistor, 0603 SMT, 2.4kΩ, 0.125W, 5%
R12, R13, R29, R33	122-068K-102	Resistor, 0603 SMT, 68kΩ, 0.1W, 1%
R14, R16, R20, R21, R24, R25, R38, R39, R41, R46, R51, R53, R54, R56, R58, R62	122-010K-102	Resistor, 0603 SMT, 10kΩ, 0.1W, 1%
R15, R17, R23, R26	122-390K-102	Resistor, 0603 SMT, 390kΩ, 0.1W, 1%
R18, R19, R28, R30, R32, R34, R36, R37, R45, R48, R49, R68, R69	122-001K-102	Resistor, 0603 SMT, 1kΩ, 0.1W, 1%

Component(s)	Part Number	Description
R22, R27, R31, R40, R47	122-09K1-102	Resistor, 0603 SMT, 9.1kΩ, 0.1W, 1%
R35	122-082K-102	Resistor, 0603 SMT, 82kΩ, 0.1W, 1%
R59-R61, R63	122-04K7-102	Resistor, 0603 SMT, 4.7kΩ, 0.1W, 1%
R3, R10, R11, R50, R52, R55, R57		Not Populated
U1	142-0002-0S	Voltage Regulator, MC7808, TO-252-3 SMT, 8V, 1A
U2, U3	140-0003-0S	Op Amp, Quad, LM324, SO-14 SMT
U4, U5	140-0004-0S	Audio Amp, Stereo, TPA3123, HTSSOP-24 SMT
J1	31-2502-04	Connector Header, 4-pin, Power
J2	30-2506-05	Jack Header, 3.5mm, Rt Angle, Green
J3	30-2506-12	Jack Header, 3.5mm, Rt Angle, Pink
J5	30-2508-00	Jack Header, RJ45 (Ethernet)
J6	30-2507-09	Jack Header, RCA, Right Angle, White
J7	30-2507-02	Jack Header, RCA, Right Angle, Red
J8, J9	30-2507-00	Jack Header, RCA, Right Angle, Black







Sound Amplifier Board, 15-0002-00
Connector Pin-outs, Revision C

J1 DC Power Input

J1-1	VIO	+24VDC from 24VDC Power Supply or UPS Board, J5-1
J1-2	Not Used	
J1-3	BLK	Ground from 24VDC Power Supply or UPS Board, J5-3
J1-4	Not Used	

J2 Audio Input

3.5mm audio cable from CPU Board (audio out),
AUDIO1, through Ground Loop Isolator

J3 Auxiliary Output

3.5mm audio cable to Jack in the Back Assy (in
back of cabinet)

J5 Headphone/Volume Control Connection

RJ45 cable to Volume Control Board (on back of coin door), J1

J6 Backbox Speaker Connection (Left)

WHT RCA cable to Backbox Speaker Bar (left side RCA jack)

J7 Backbox Speaker Connection (Right)

RED RCA cable to Backbox Speaker Bar (right side RCA jack)

J8 Cabinet Speaker Connection

YEL RCA cable to cabinet subwoofer speaker

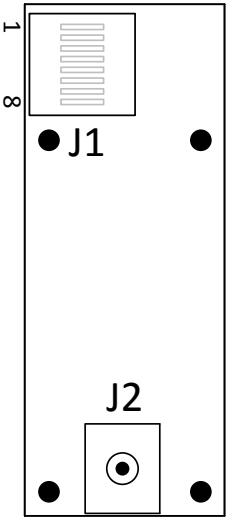
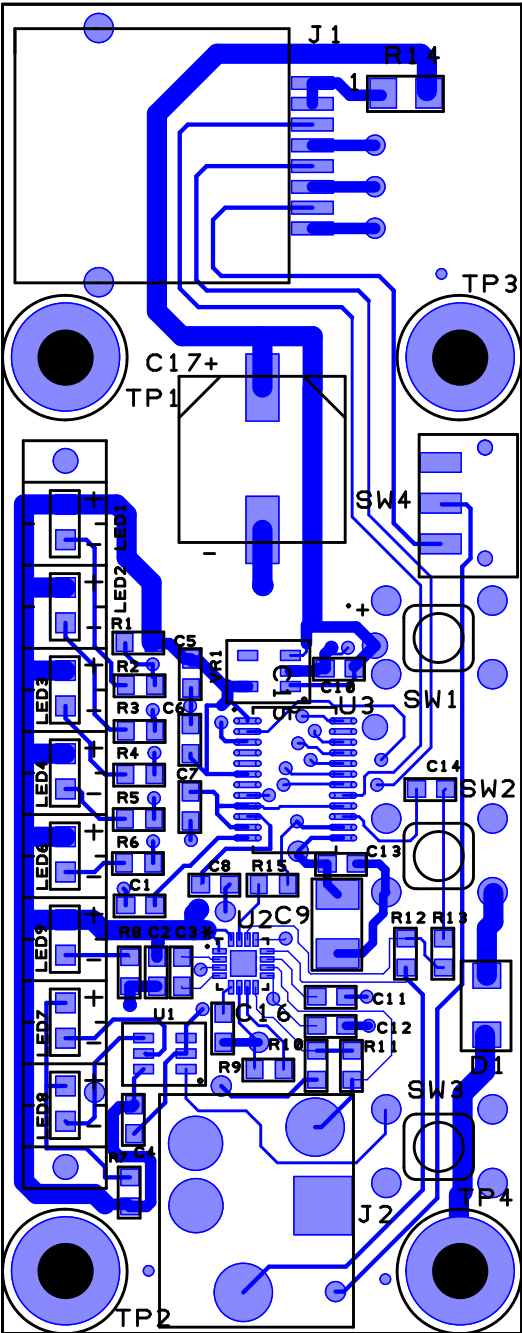
J9 Cabinet Speaker Spare

Not Used

Note: Sound Amplifier Board connections to J3 & J6-J8 pass through in-line connectors mounted in back panel of Cabinet PCB Chassis Assembly. Connections to J1 pass through an in-line RJ45 connector mounted in side of Cabinet PCB Chassis Assembly.

Volume Control Board
15-0013-00, Revision C

Component(s)	Part Number	Description
C1-C5, C10, C12, C16	103-105K-025	Capacitor, MLCC, 0603 SMT, 1μF, 25V, 10%
C6, C11, C13	103-104K-050	Capacitor, MLCC, 0603 SMT, 100nF, 50V, 10%
C7	103-101K-050	Capacitor, MLCC, 0603 SMT, 100pF, 50V, 10%
C17	109-470M-050	Capacitor, Elect (Radial), 470μF, 50V, 20%
C8, C14	103-474K-025	Capacitor, MLCC, 0603 SMT, 0.47μF, 25V, 10%
C9	102-106M-050	Capacitor, MLCC, 1210 SMT, 10μF, 50V, 20%
D1	110-0003-0S	Diode, TVS, SMAJ12CA, SMT, 400W, 12V
LED1-LED4, LED6, LED7, LED9	24-0011-0S	LED, 0805 SMD, GRN, 565nm
LED5	24-0012-0S	LED Light Pipes, 8 pos, 3mm, Vertical, SMD
LED8	24-0013-0S	LED, 0805 SMD, YEL, 585nm
R1	122-1M00-102	Resistor, 0603 SMT, 1MΩ, 0.1W, 1%
R2-R8	122-0220-102	Resistor, 0603 SMT, 220Ω, 0.1W, 1%
R9, R11, R12, R15	122-010K-102	Resistor, 0603 SMT, 10kΩ, 0.1W, 1%
R10, R13	122-04K7-102	Resistor, 0603 SMT, 4.7kΩ, 0.1W, 1%
R14	124-0010-502	Resistor, 1206 SMT, 10Ω, 0.5W, 1%
SW1-SW3	18-8000-0T	Switch, Tactile, 6x13mm, 50mA, SPST, 160g
SW4	18-8001-0S	Switch, Slide, 0.3A, SPDT, SMT
U1	140-0005-0S	On/Off Controller w/ Debounce, MAX16054, SOT-23-6 SMT
U2	140-0006-0S	Audio Amp, Headphone, MAX97220B, TQFN-16 SMT
U3	140-0007-0S	Volume Control, Stereo, MAX5486, TSSOP-24 SMT
VR1	142-0003-0S	Voltage Regulator, MC78PC50, SOT-23-5 SMT, 5V, 150mA
J1	30-2509-00	Jack Header, RJ45 (Ethernet), SMT
J2	30-2506-00	Jack Header, 3.5mm, Vertical, Black

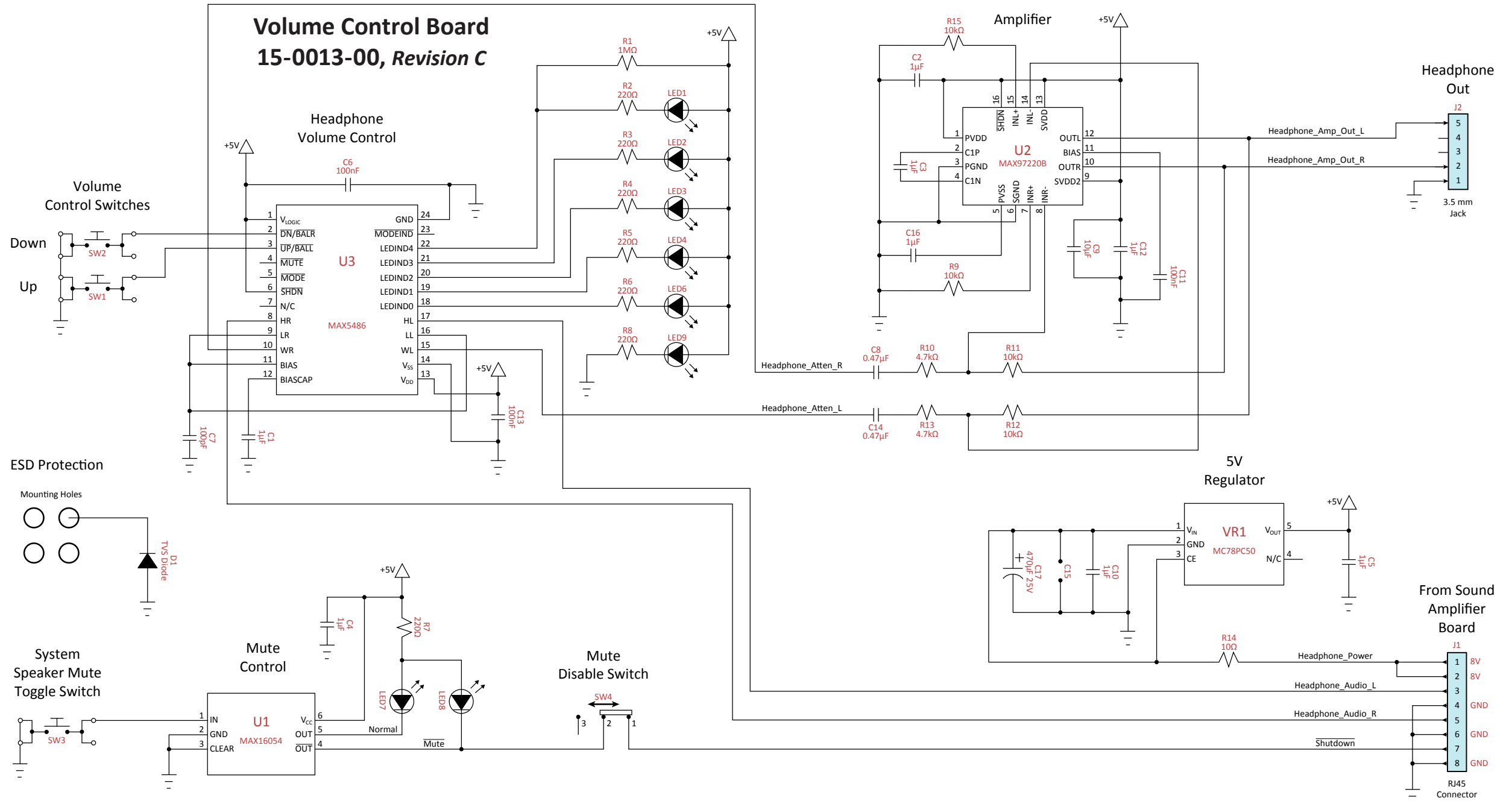


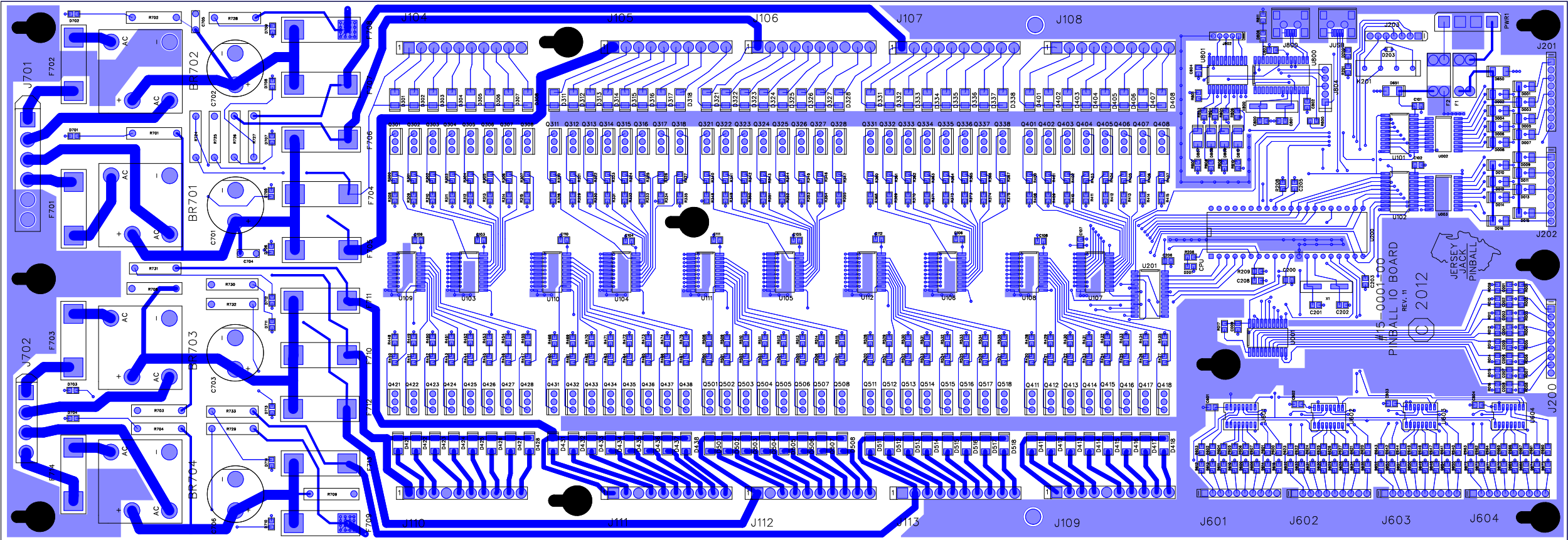
Volume Control Board
15-0013-00
Connector Pin-outs, Revision C

J1 Sound Amplifier Board Connection
RJ45 cable to Sound Amplifier Board (inside Cabinet PCB Chassis), J5

J2 Headphone Output
3.5mm audio cable to external headphones

Note: Volume Control Board connections to J1 pass through an in-line RJ45 connector mounted in side of Cabinet PCB Chassis Assembly.





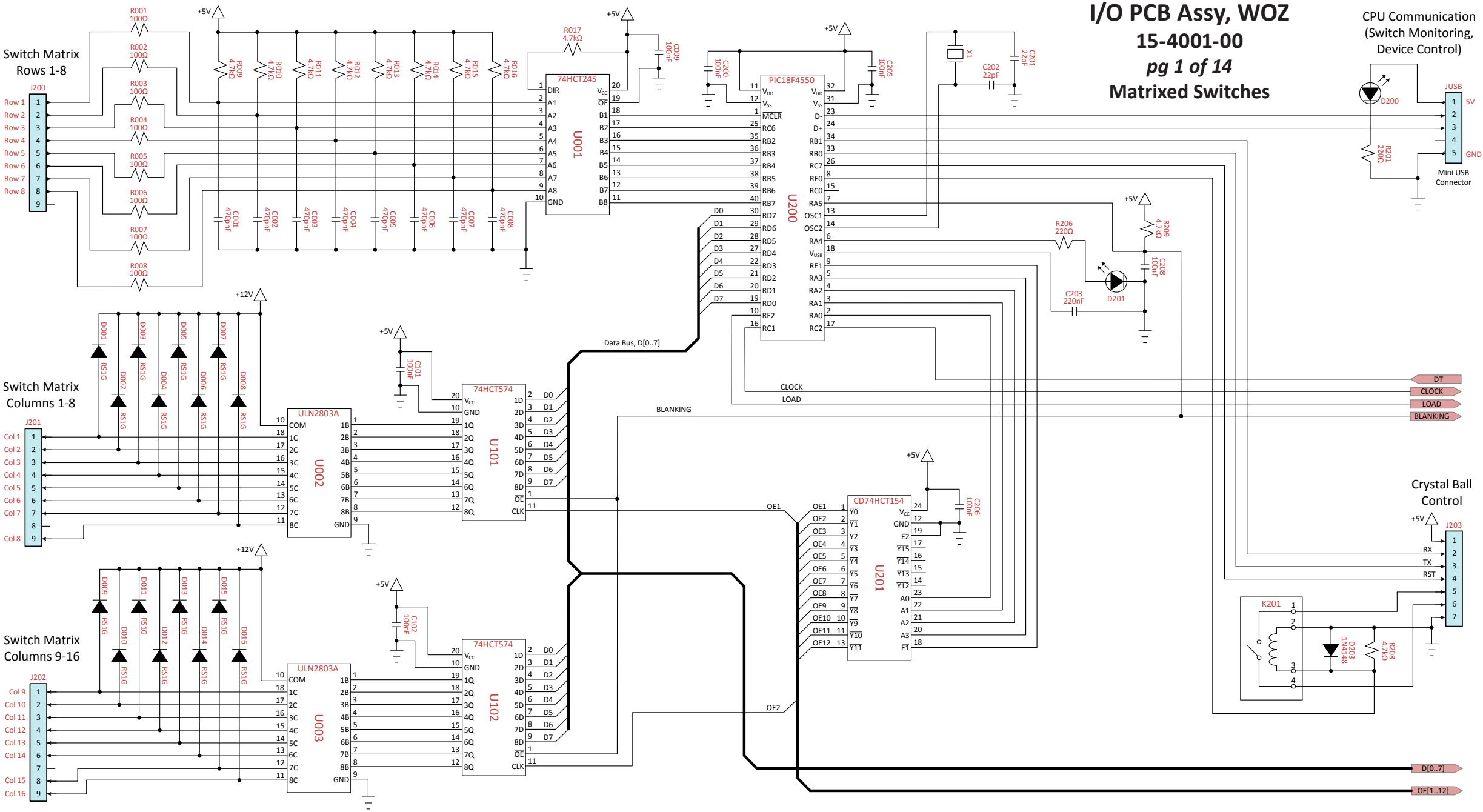
I/O PCB Assy, WOZ
15-4001-00

Component(s)	Part Number	Description
BR701-BR704	150-0001-0T	Bridge Rectifier, Wire Leads, 600V, 35A
C001-C008	100-471J-050	Capacitor, MLCC, 0805 SMT, 470pF, 50V, 5%
C009, C101-C112, C200, C205, C206, C208,	100-104K-050	Capacitor, MLCC, 0805 SMT, 100nF, 50V, 10%
C601-C604, C803, C804	100-220J-050	Capacitor, MLCC, 0805 SMT, 22pF, 50V, 5%
C201, C202, C800, C801	100-224K-050	Capacitor, MLCC, 0805 SMT, 220nF, 50V, 10%
C203, C802	109-3K3M-100	Capacitor, Elect (Radial), 3300μF, 100V, 20%
C701, C702	109-15KM-035	Capacitor, Elect (Radial), 15000μF, 35V, 20%
C703, C706		

Component(s)	Part Number	Description
C704, C705	101-104K-630	Capacitor, MLCC, Leaded, 100nF, 630V, 10%
D203	110-1000-0S	Diode, 1N4148, SMT, 75V, 300mA
D303-D308, D313-D318, D323-D328, D334-D338, D401-D403, D405-D408, D411-D418, D421-D424, D431-D433, D501, D511-D517, D001-D016, D650, D651	110-5001-0S	Diode, RS1G, SMT, 400V, 1A, 150ns

Component(s)	Part Number	Description
D301, D302, D311, D312, D321, D322, D331-D333, D404, D425-D428, D434-D438, D502-D508, D518 D701-D714, D200, D203, D806	24-0014-0S	Not Populated
D807-D810	110-5002-0S	LED, 0805 SMD, RED, 621nm
F701, F702	170-0110-SM	Diode, Zener, SMAZ5V1, SMT, 5.1V, 1W
F703, F706, F707	170-0163-SM	Fuse, Time Delay, 10A, 250V, 5mm x 20mm
F704, F705, F708	170-0105-SM	Fuse, Time Delay, 6.3A, 250V, 5mm x 20mm
F710, F711, F712, F714	170-0105-SM	Fuse, Time Delay, 5A, 250V, 5mm x 20mm
F709	170-0104-SM	Fuse, Time Delay, 4A, 250V, 5mm x 20mm
F713	170-0103-SM	Fuse, Time Delay, 3A, 250V, 5mm x 20mm
F1, F2	170-0102-SM	Fuse, Time Delay, 2A, 250V, 5mm x 20mm
F701-F714	170-3202-SB	Fuse, Slow Blow, 2A, 32V, Mini Blade
F1, F2	22-8007-00	Fuse Holder, 5mm x 20mm, SMD, 250V, 10A
K201	22-8006-00	Fuse Holder, Mini Blade, 500V, 20A
Q303-Q308, Q313-Q318, Q323-Q328, Q334-Q338, Q401-Q403, Q405-Q408, Q411-Q418, Q421-Q424, Q431-Q433, Q501, Q511-Q517 Q301, Q302, Q311, Q312, Q321, Q322, Q331-Q333, Q404, Q425-Q428, Q434-Q438, Q502-Q508, Q518	160-0001-0T	Relay, Reed, SPST, Normally Open, 10W, 0.5A
R201, R206, R302-R307, R322-R327, R342-R347, R363-R367, R400-R402, R404-R407, R420-R427, R440-R443, R460-R462, R400, R500, R520-R526, R600-R607, R620-R627, R640-R647, R660-R667, R811 R208, R209, R802, R009-R017 R310-R315, R330-R334, R350-R355, R371-R375, R408-R410, R412-R415, R428-R435, R448-R451, R468-R470, R508, R528-R535, R608-R615, R628-R635, R648-R655, R668-R675, R800, R801	130-0000-0T	MOSFET, IRL540, N-Ch, TO-220AB, 100V, 36A
		Not Populated
	120-0220-254	Resistor, 0805 SMT, 220Ω, 0.25W, 5%
	120-04K7-254	Resistor, 0805 SMT, 4.7kΩ, 0.25W, 5%
	120-010K-254	Resistor, 0805 SMT, 10kΩ, 0.25W, 5%

Component(s)	Part Number	Description
R701, R702, R724-R728	121-06K8-2H4	Resistor, Leaded, 6.8kΩ, 2W, 5%
R703, R730-R732	121-02K7-2H4	Resistor, Leaded, 2.7kΩ, 2W, 5%
R704, R729, R733	121-01K2-2H4	Resistor, Leaded, 1.2kΩ, 2W, 5%
R708, R709	121-0470-2H4	Resistor, Leaded, 470Ω, 2W, 5%
R803-R806, R001-R008	120-0100-254	Resistor, 0805 SMT, 100Ω, 0.25W, 5%
R807-R810	120-047K-254	Resistor, 0805 SMT, 47kΩ, 0.25W, 5%
R300, R301, R320, R321, R340, R341, R360-R362, R403, R444-R447, R463-R467, R501-R507, R527, R308, R309, R328, R329, R348, R349, R368-R370, R411, R452-R455, R471-R475, R509-R515, R535		Not Populated
U001	141-0008-0S	Octal Bus XCVRs w/3-State Outputs, 74HCT245, SOIC-20 SMT
U002, U003	141-0009-0S	Darlington Transistor Array, ULN2803A, SOIC-18 SMT, NPN
U101-U112	141-0010-0S	Octal D-Type Flip-Flops w/3-State Outputs, 74HCT574, SOIC-20 SMT
U200	141-0011-0T	Microcontroller, 8-Bit, USB, 48MHz, PIC18F4550, PDIP-40
U200	31-3000-0T	DIP Socket, 40-pin, 2.54mm Pitch
U201	141-0012-0S	4- to 16-Line Decoder, CMOS, CD74HCT154, SOIC-24 SMT
U601-U604	141-0013-0S	Shift Register, Serial/Parallel to Serial, 8-Bit, 74HCT165, SOIC-16 SMT
U800	141-0014-0S	Microcontroller, 8-Bit, USB, 48MHz, PIC18F2550, SOIC-28 SMT
U801	141-0015-0S	Octal Bidir Bus XCVRs w/3-State Outputs, 74ACT245, SOIC-20 SMT
X1, X800	160-0002-0S	Crystal, 8MHz, ATS08ASM-1E, SMT, 20pF, 30PPM
J104-J113	31-2505-10	Header, Male, 10-pin, 3.96mm
J200, J201, J202	31-2504-09	Header, Male, 9-pin, 2.54mm
J203	31-2501-07	Header, Male, 7-pin, Rt Angle, 2.54mm
J601-J604	31-2504-10	Header, Male, 10-pin, 2.54mm
J701	31-2506-06	Header, Male, 6-pin, .250" Centerline
J702	31-2506-04	Header, Male, 4-pin, .250" Centerline
JUSB, J800	31-2507-00	Receptacle, Mini USB 2.0, Type B, SMT
J802	30-2001-00	Header, Male, 5-pin, 2mm
J804	31-2504-05	Header, Male, 5-pin, 2.54mm
PWR1	31-2502-04	Connector Header, Male, 4-pin, Power

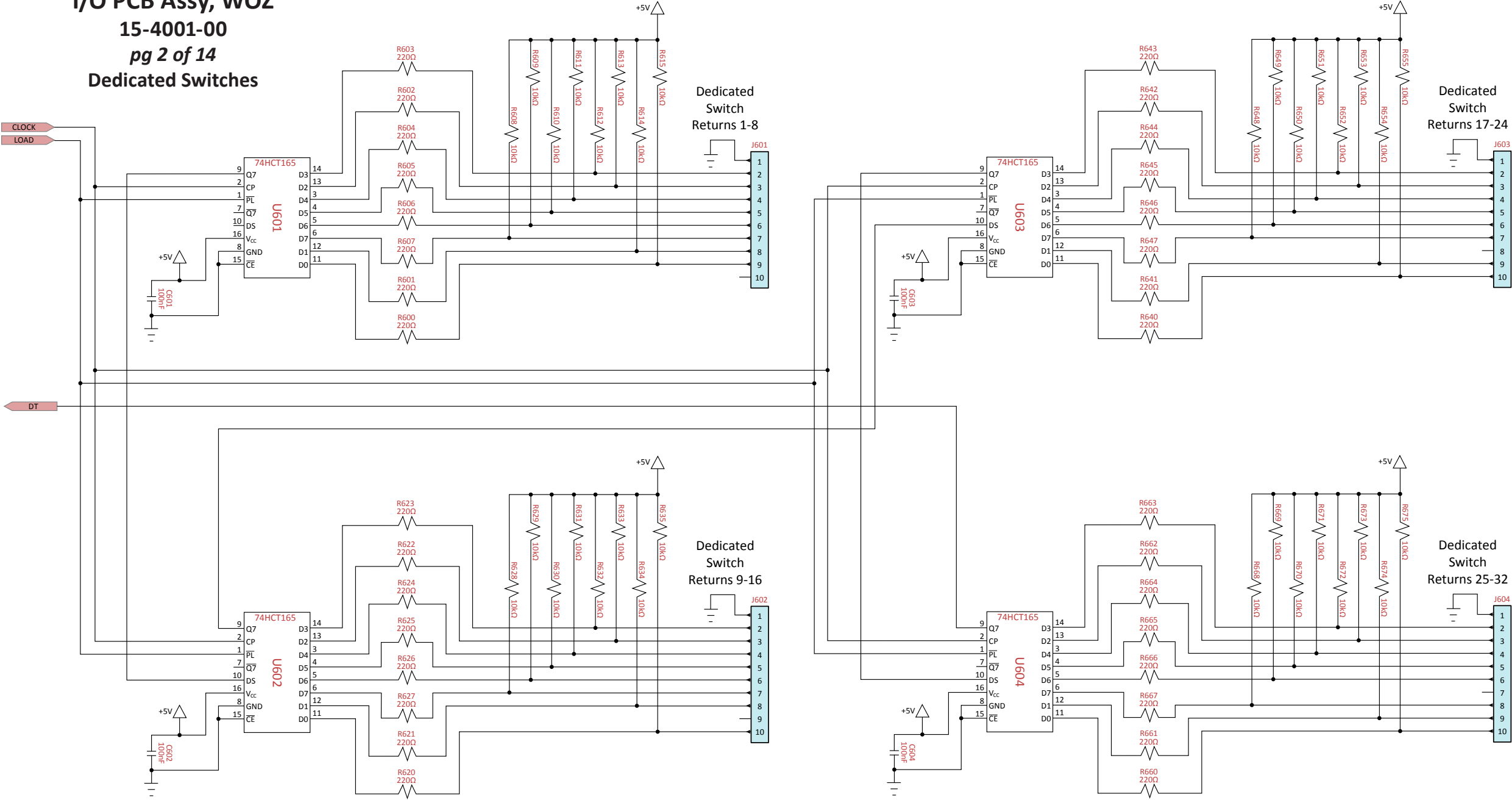


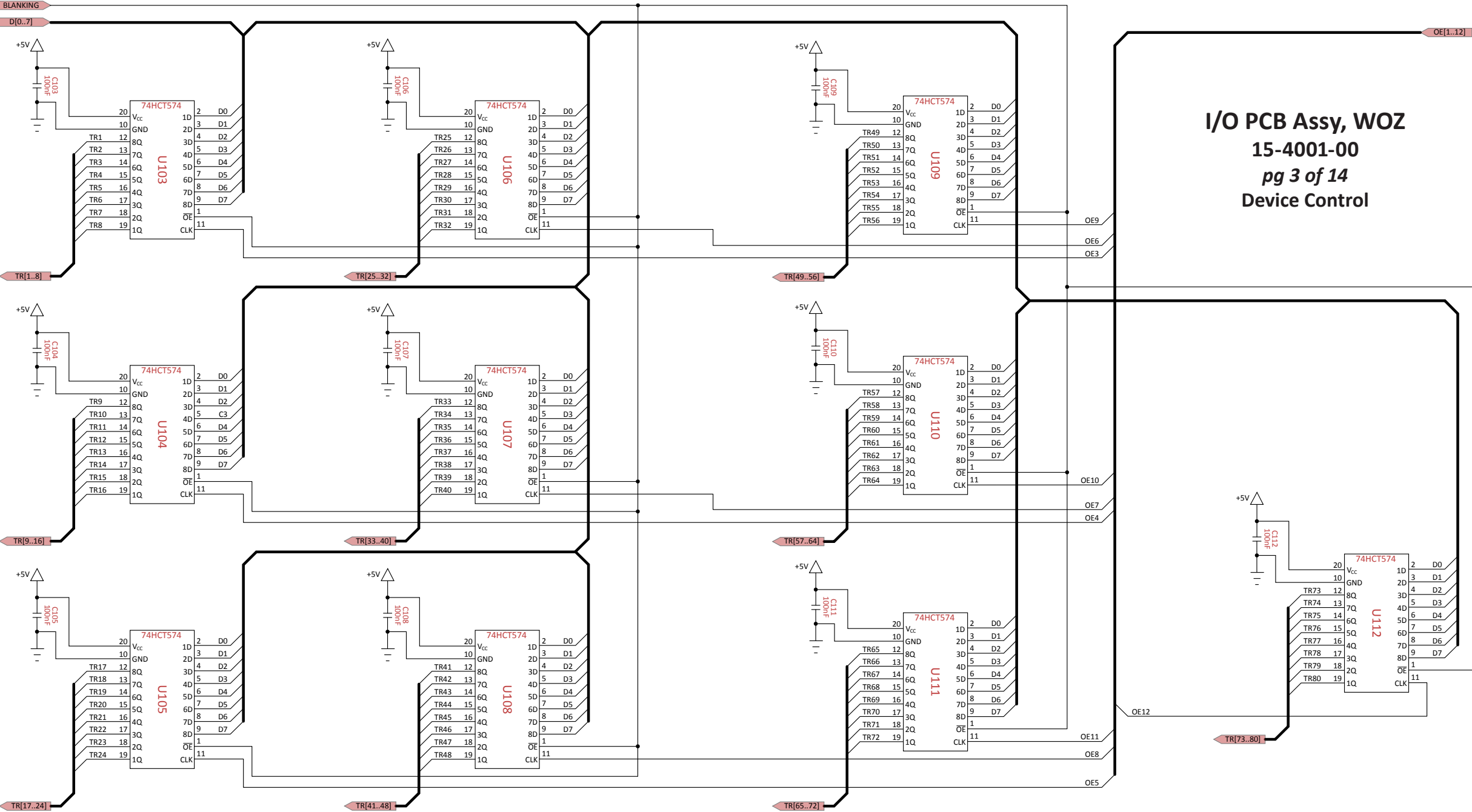
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15-4001-00

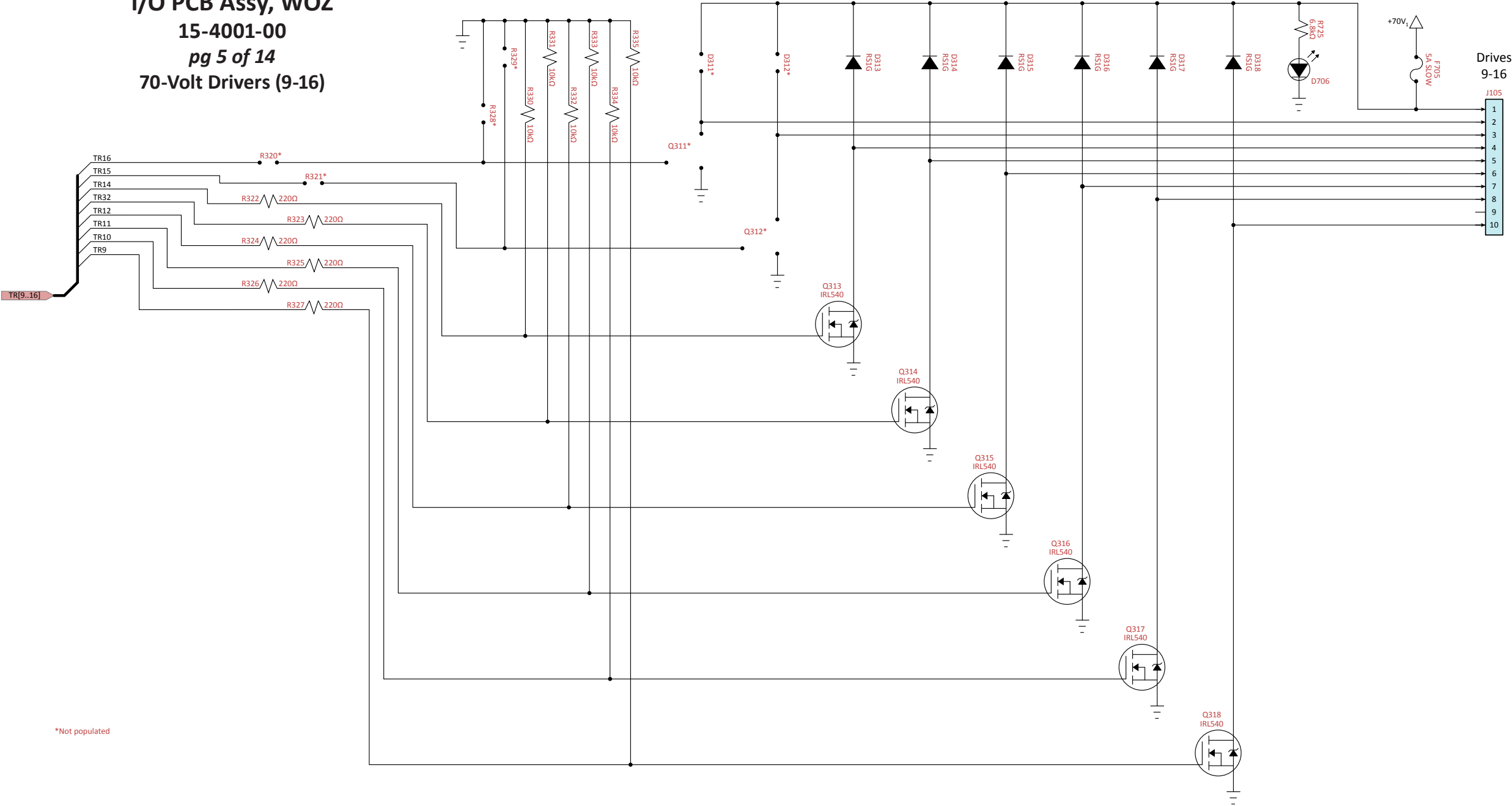
pg 2 of 14

Dedicated Switches





I/O PCB Assy, WOZ
15-4001-00
pg 5 of 14
70-Volt Drivers (9-16)



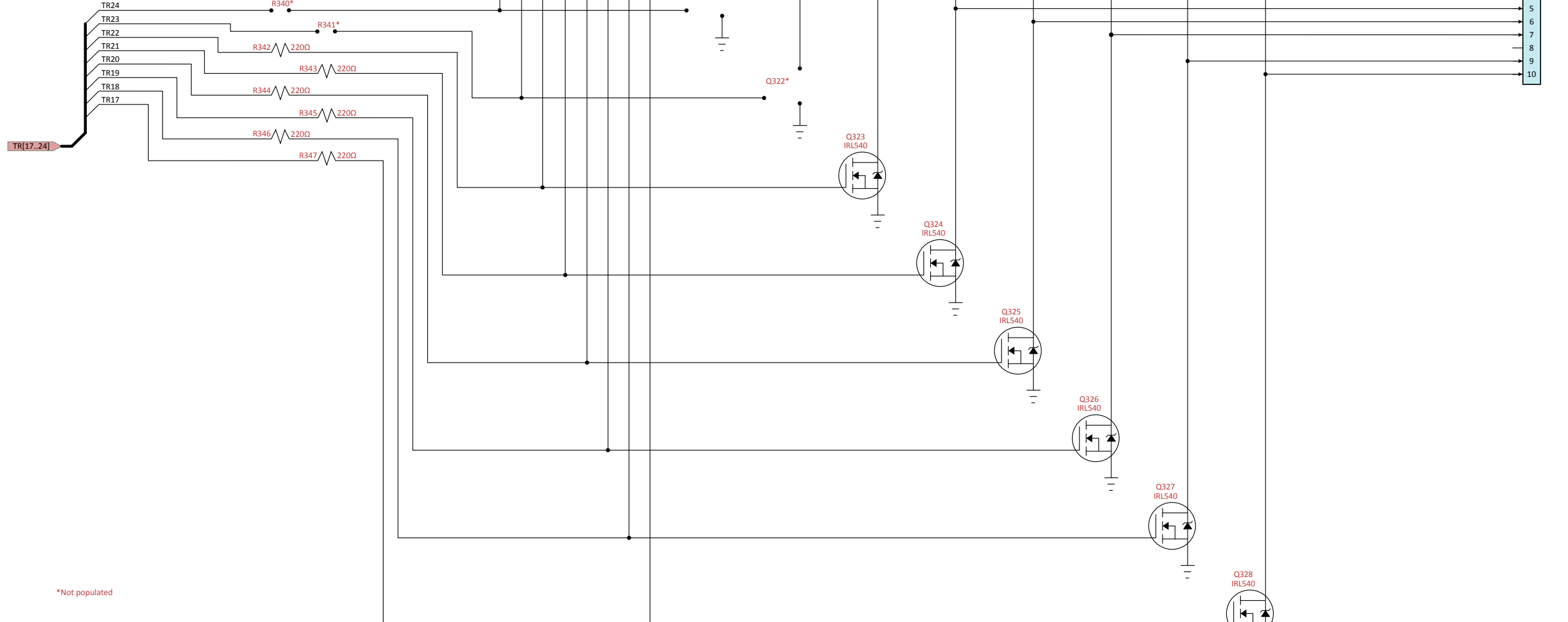
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I/O PCB Assy, WOZ

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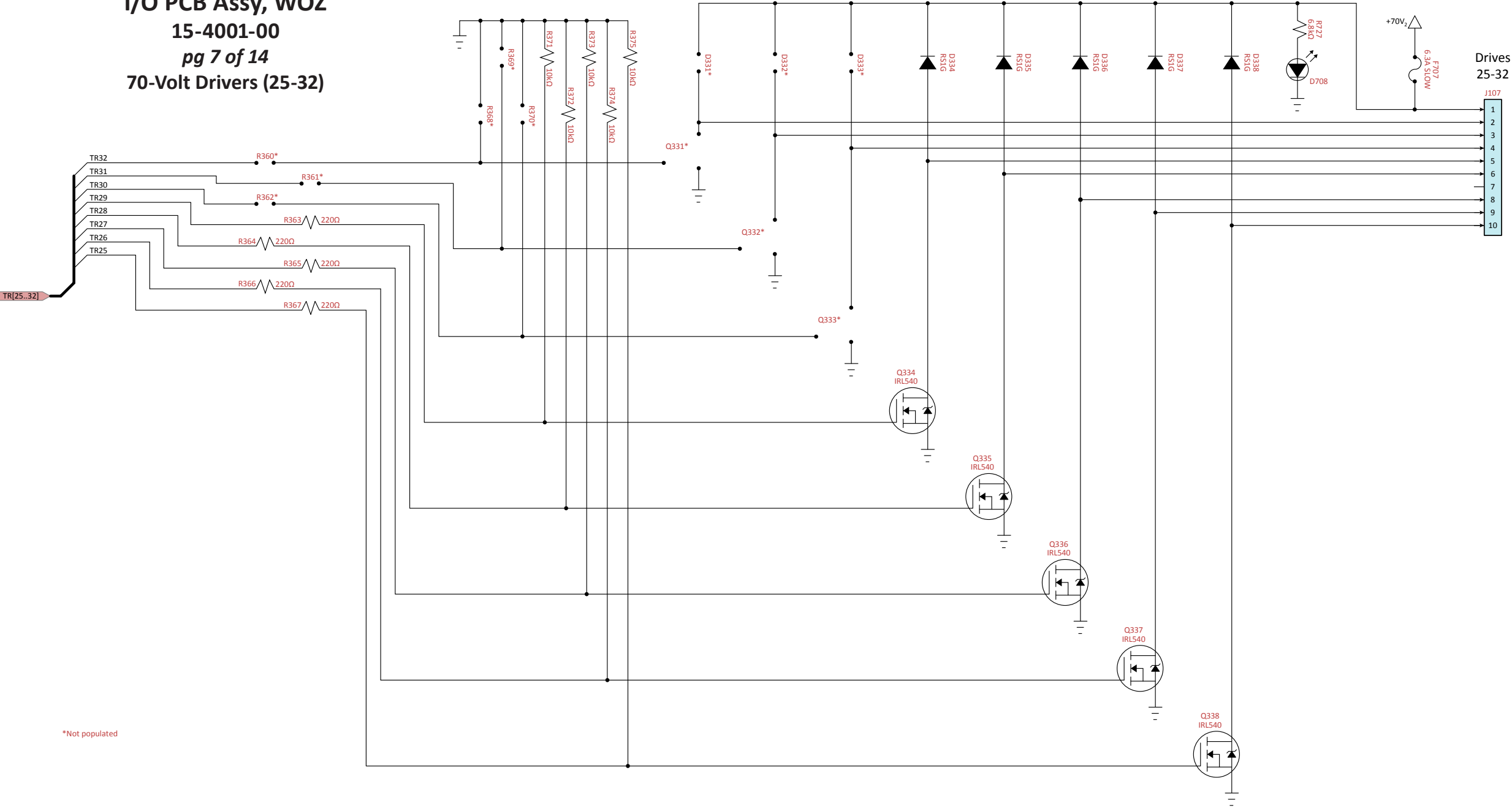
pg 6 of 14

70-Volt Drivers (17-24)



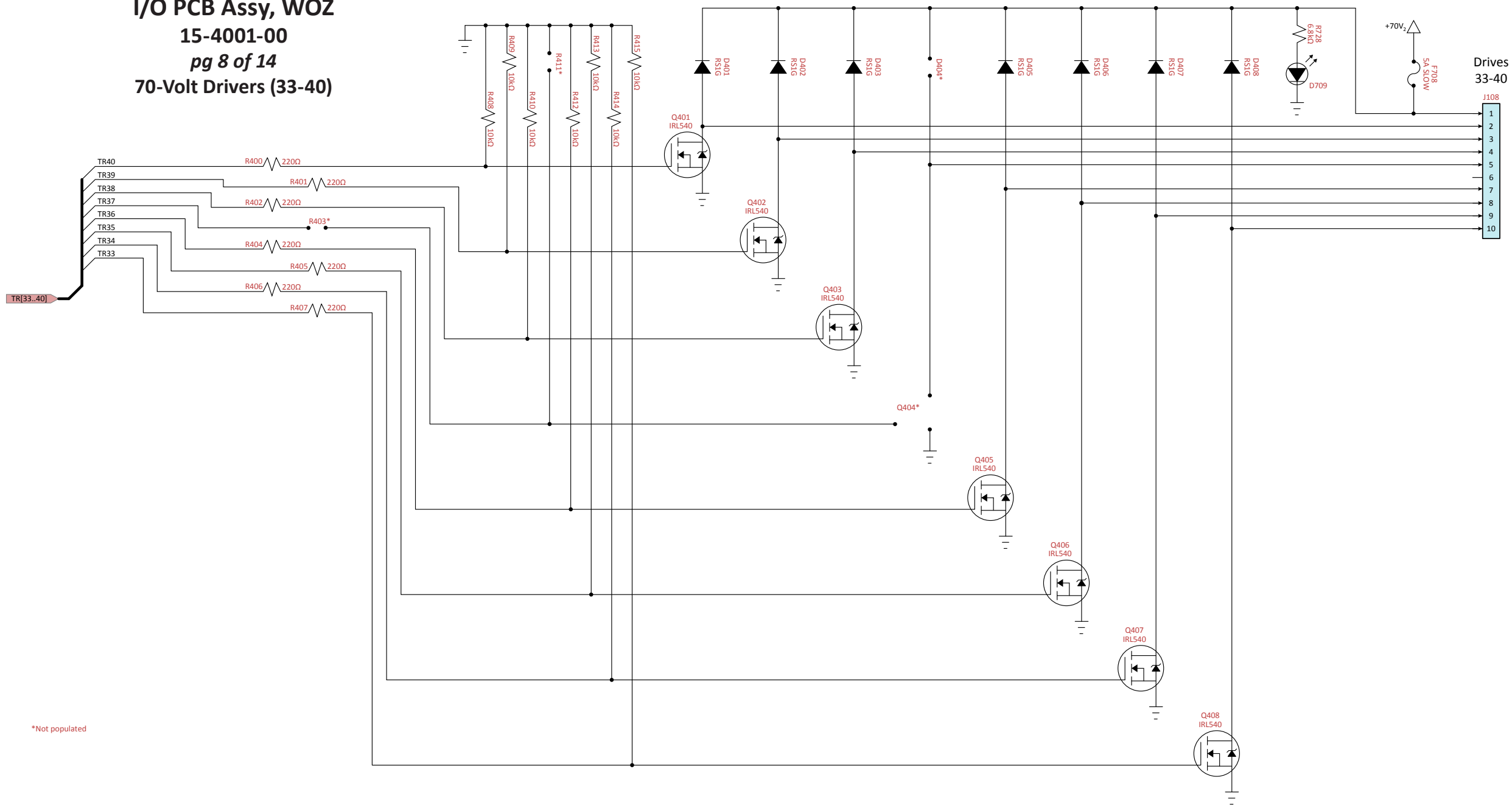
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I/O PCB Assy, WOZ
15-4001-00
pg 7 of 14
70-Volt Drivers (25-32)



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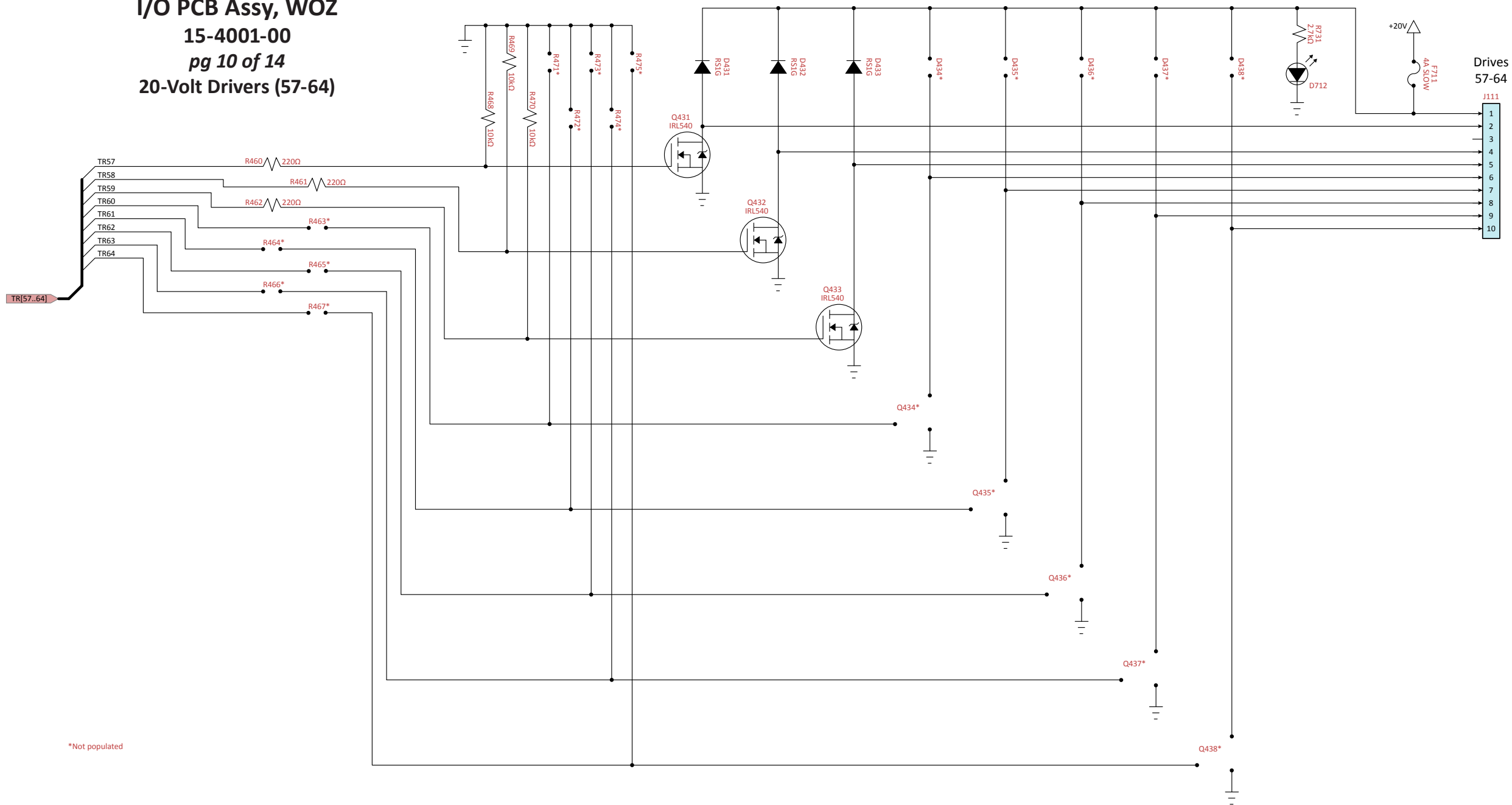
I/O PCB Assy, WOZ
15-4001-00
pg 8 of 14
70-Volt Drivers (33-40)



20-Volt Drivers (49-56)

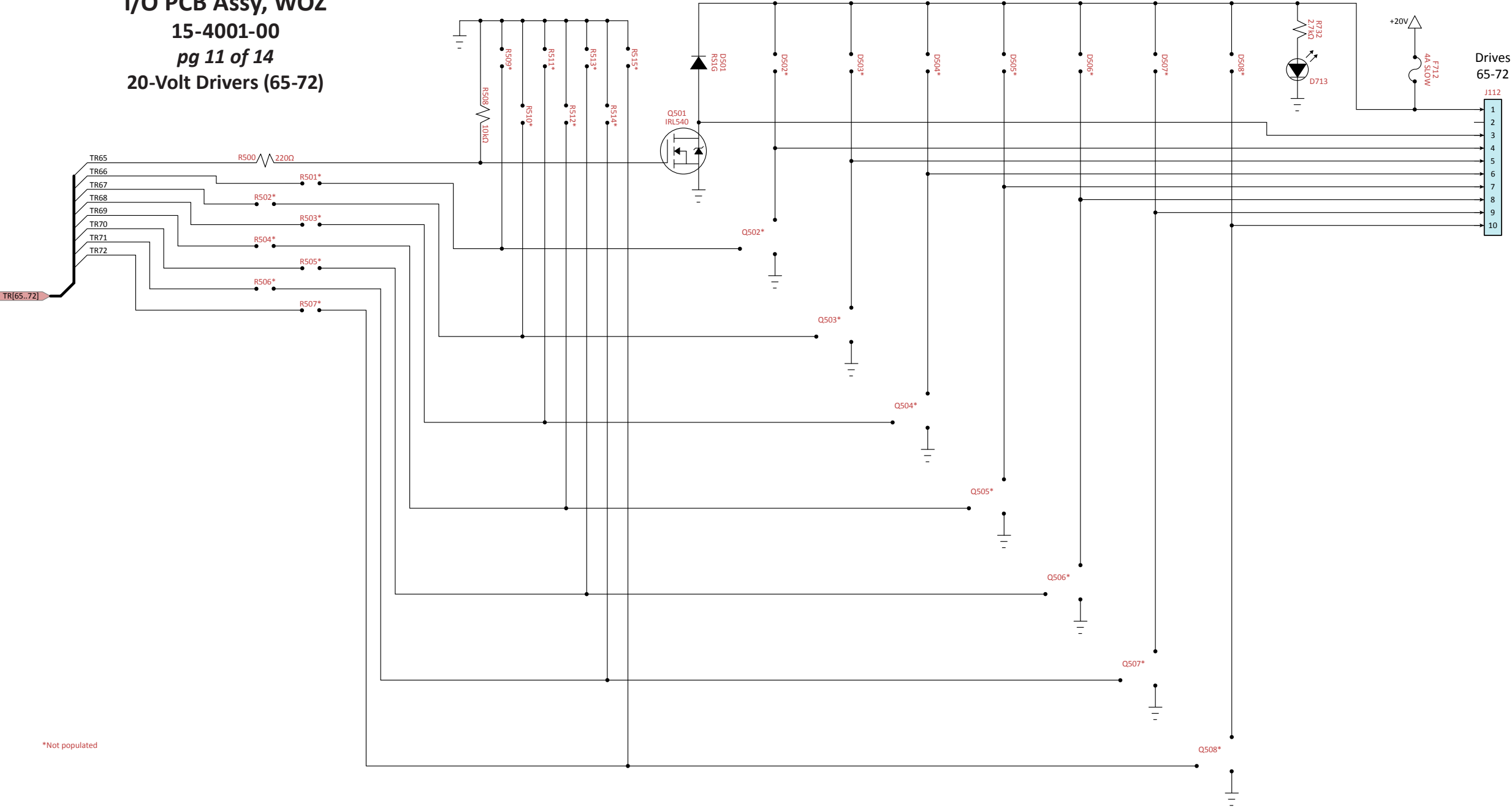


I/O PCB Assy, W0Z
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pg 10 of 14
20-Volt Drivers (57-64)



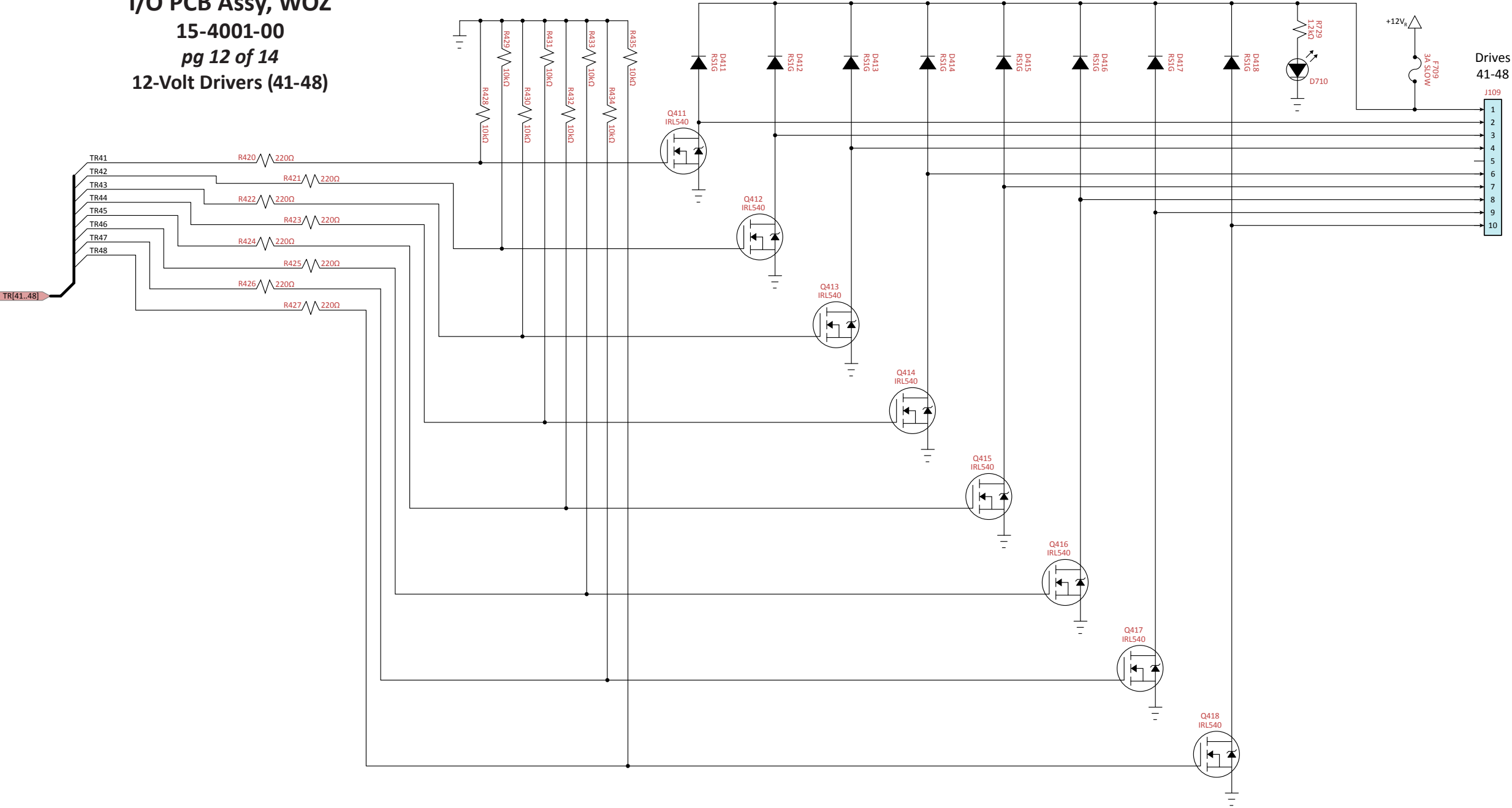
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I/O PCB Assy, WOZ
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20-Volt Drivers (65-72)

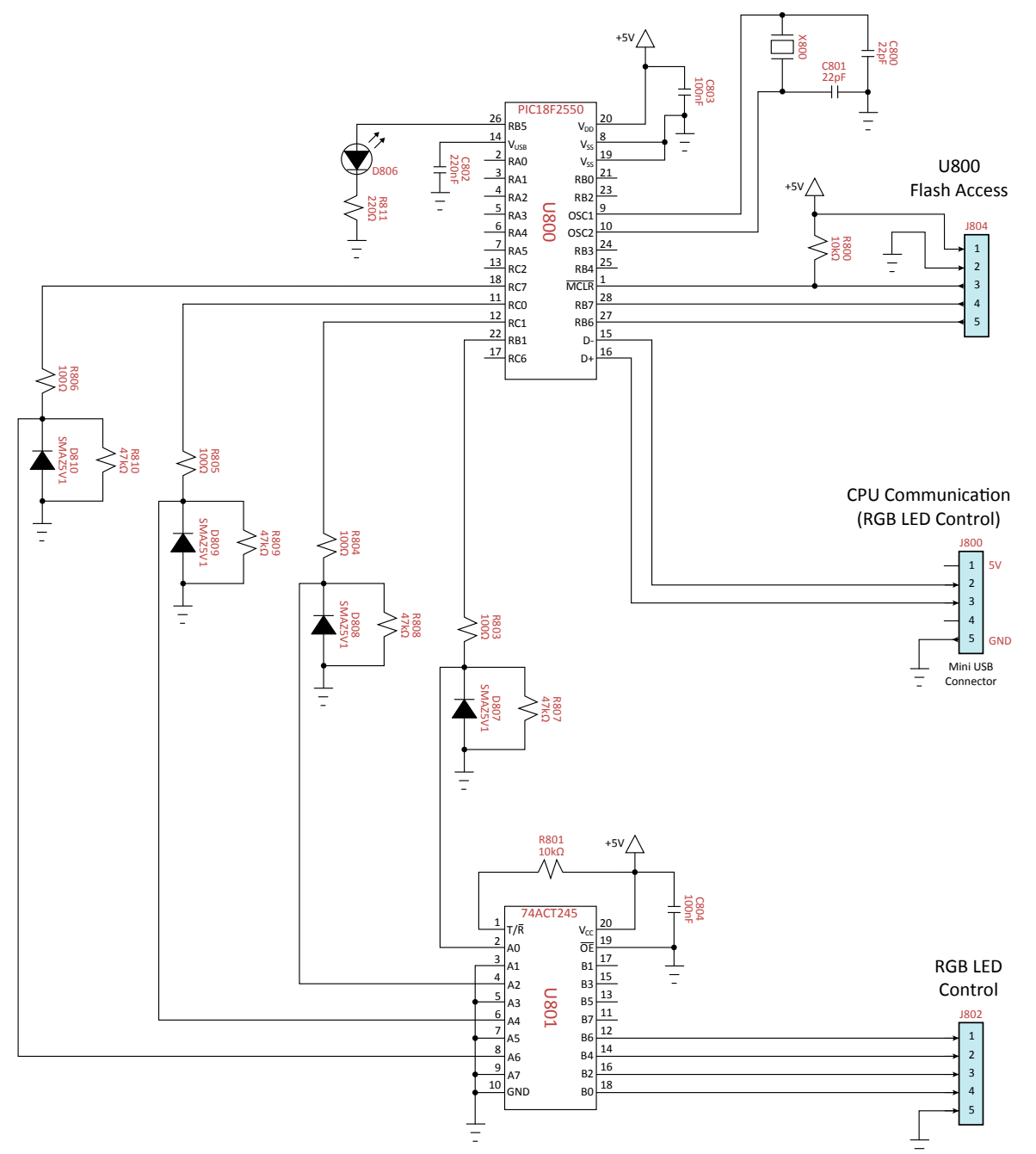
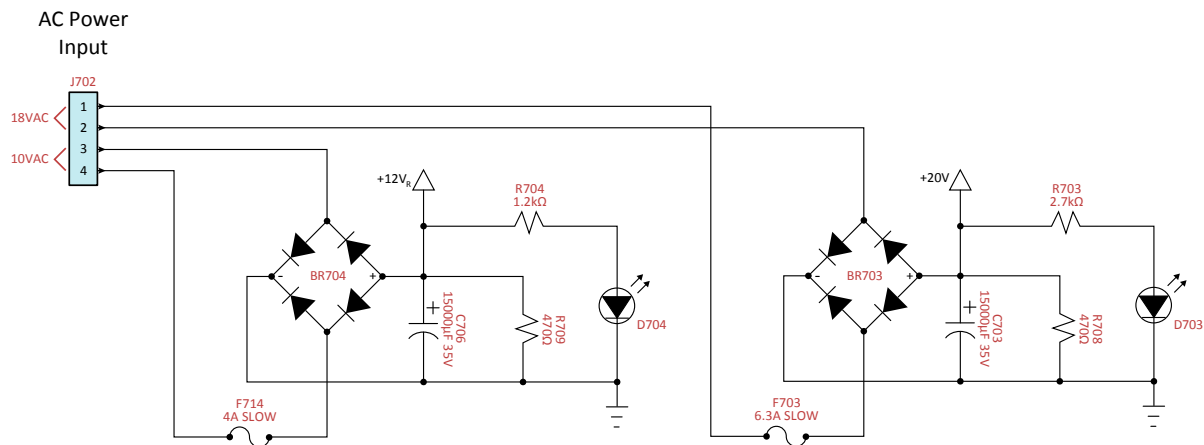
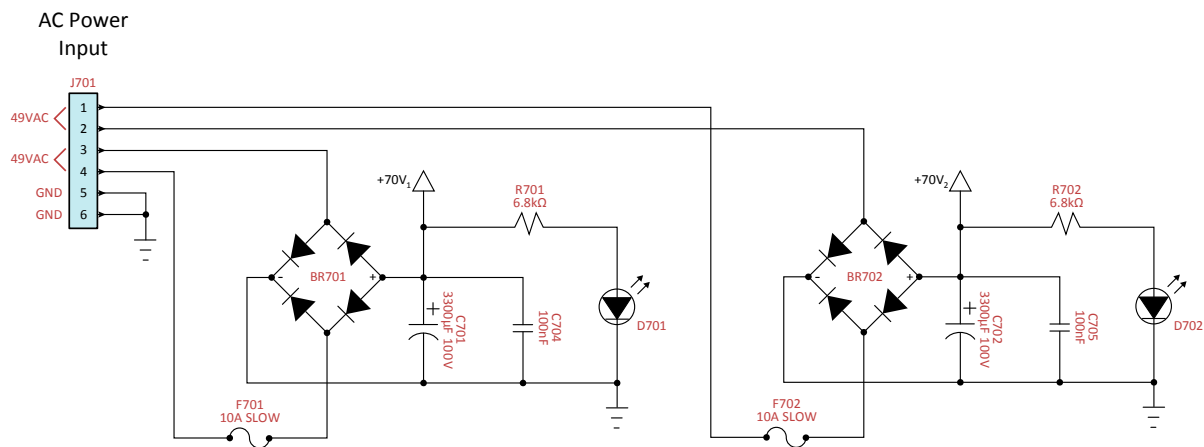
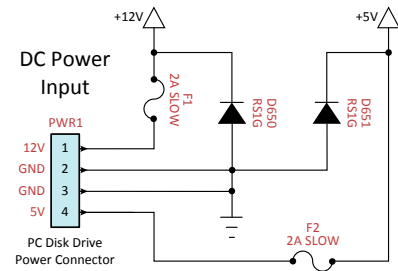


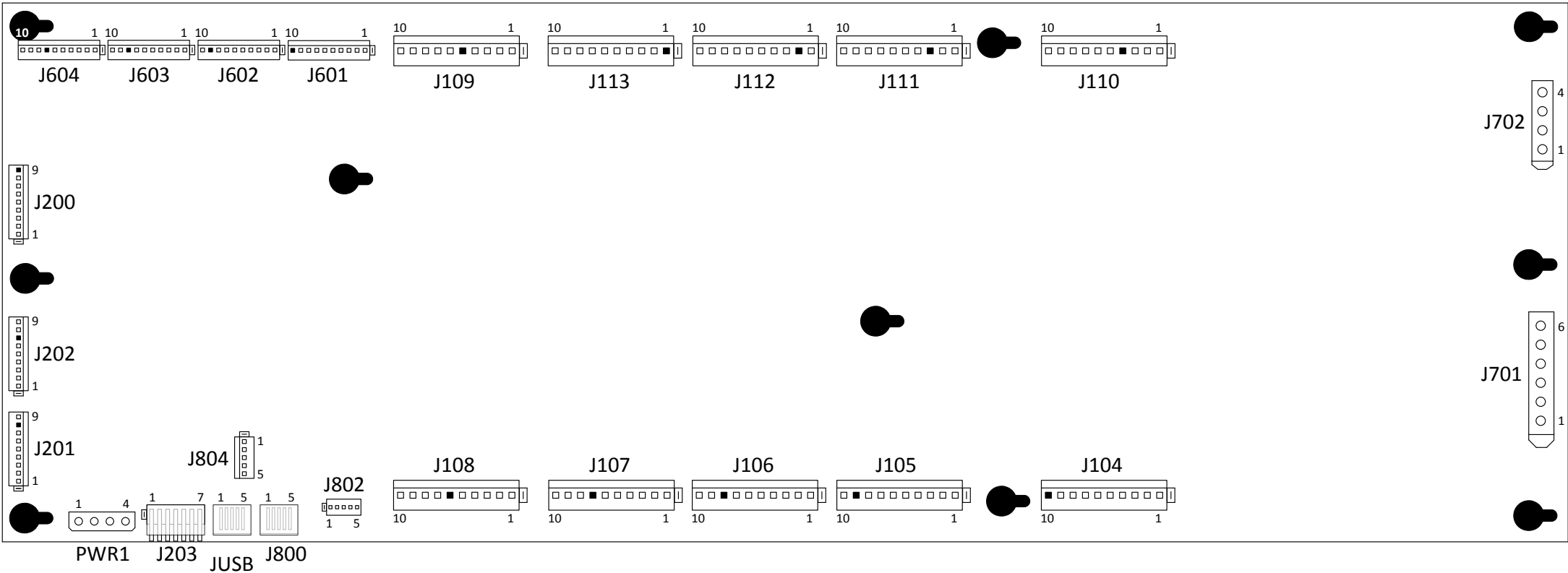
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I/O PCB Assy, WOZ
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12-Volt Drivers (41-48)



I/O PCB Assy, W0Z 15-4001-00 pg 14 of 14 Power & RGB LED Control





I/O PCB Assy, WOZ, 15-4001-00
Connector Pin-outs

J104 70-Volt Coil Drives (1-8)		
J104-1	BRN	+70VDC supply to coils below
J104-2	Not Used	
J104-3	Not Used	
J104-4	BRN-GRN	Coil drive 6 [Crystal Ball VUK]
J104-5	BRN-YEL	Coil drive 5 [Winkie Guard VUK]
J104-6	BRN-ORN	Coil drive 4 [State Fair Balloon Bumper]
J104-7	BRN-RED	Coil drive 3 [Center Tree Bumper]
J104-8	BRN-GRY	Coil drive 2 [Right Tree Bumper]
J104-9	BRN-BLK	Coil drive 1 [Left Tree Bumper]
J104-10	Key	

J105 70-Volt Coil Drives (9-16)		
J105-1	RED	+70VDC supply to coils below
J105-2	Not Used	
J105-3	Not Used	
J105-4	RED-GRN	Coil drive 14 [Upper Right Flipper Hold]
J105-5	RED-YEL	Coil drive 13 [Upper Right Flipper Power]
J105-6	RED-ORN	Coil drive 12 [Right Flipper Hold]
J105-7	RED-GRY	Coil drive 11 [Right Flipper Power]
J105-8	RED-BRN	Coil drive 10 [Left Flipper Hold]
J105-9	Key	
J105-10	RED-BLK	Coil drive 9 [Left Flipper Power]

J106 70-Volt Coil Drives (17-24)		
J106-1	ORN	+70VDC supply to coils below
J106-2	Not Used	
J106-3	Not Used	
J106-4	ORN-GRN	Coil drive 22 [5-Ball Trough VUK]
J106-5	ORN-YEL	Coil drive 21 [Ball Auto-Launch]
J106-6	ORN-GRY	Coil drive 20 [Drop Target Reset (Up)]
J106-7	ORN-RED	Coil drive 19 [Throne Room VUK]
J106-8	Key	
J106-9	ORN-BRN	Coil drive 18 [Ramp Ball Lock]
J106-10	ORN-BLK	Coil drive 17 [Ball Diverter]

J107 70-Volt Coil Drives (25-32)

J107-1	TAN	+70VDC supply to magnets below
J107-2	Not Used	
J107-3	Not Used	
J107-4	Not Used	
J107-5	TAN-YEL	Coil drive 29 [Monkey Magnet]
J107-6	TAN-ORN	Coil drive 28 [Right Orbit Magnet]
J107-7	Key	
J107-8	TAN-RED	Coil drive 27 [Top Lanes Magnet]
J107-9	TAN-BRN	Coil drive 26 [Witch Bottom Magnet]
J107-10	TAN-BLK	Coil drive 25 [Witch Top Magnet]

J108 70-Volt Coil Drives (33-40)

J108-1	PNK	+70VDC supply to coils below
J108-2	PNK-VIO	Coil drive 40 [Top Lanes Slingshot]
J108-3	PNK-BLU	Coil drive 39 [Right Slingshot]
J108-4	PNK-GRN	Coil drive 38 [Left Slingshot]
J108-5	Not Used	
J108-6	Key	
J108-7	PNK-ORN	Coil drive 36 [Munchkinland Flipper Hold]
J108-8	PNK-RED	Coil drive 35 [Munchkinland Flipper Power]
J108-9	PNK-BRN	Coil drive 34 [Castle Flipper Hold]
J108-10	PNK-BLK	Coil drive 33 [Castle Flipper Power]

J109 12-Volt Coil Drives (41-48)

J109-1	YEL	+12VDC supply to motors/relays below
J109-2	YEL-BLK	Coil drive 41 [House Motor]
J109-3	YEL-BRN	Coil drive 42 [Shaker Motor]
J109-4	YEL-RED	Coil drive 43 [Monkey Motor], Motor Relay Board, J1-3
J109-5	Key	
J109-6	YEL-ORN	Coil drive 44 [Monkey Motor Relay], Motor Relay Board, J1-2
J109-7	YEL-GRY	Coil drive 45 [Witch Stepper Motor 1]
J109-8	YEL-GRN	Coil drive 46 [Witch Stepper Motor 2]
J109-9	YEL-BLU	Coil drive 47 [Witch Stepper Motor 3]
J109-10	YEL-VIO	Coil drive 48 [Witch Stepper Motor 4]

J110 20-Volt Coil Drives (49-56)

J110-1	PLM	+20VDC supply to coils below
J110-2	PLM-BLK	Coil drive 49 [Drop Target Retract (Down)]
J110-3	PLM-BRN	Coil drive 50 [Castle Doors VUK]
J110-4	Key	
J110-5	PLM-RED	Coil drive 51 [Castle Double Doors Latch]
J110-6	PLM-ORN	Coil drive 52 [House Wall Drop]
J110-7	Not Used	
J110-8	Not Used	
J110-9	Not Used	
J110-10	Not Used	

J111 20-Volt Coil Drives (57-64)

J111-1	BLU	+20VDC supply to motors below
J111-2	BLU-BLK	Coil drive 57 [Castle Single Door Motor]
J111-3	Key	
J111-4	BLU-BRN	Coil drive 58 [Castle Double Doors Motor, Left]
J111-5	BLU-RED	Coil drive 59 [Castle Double Doors Motor, Right]
J111-6	Not Used	
J111-7	Not Used	
J111-8	Not Used	
J111-9	Not Used	
J111-10	Not Used	

J112 20-Volt Coil Drives (65-72)

J112-1	VIO	+20VDC supply to coil below
J112-2	Key	
J112-3	VIO-BLK	Coil drive 65 [Knocker]
J112-4	Not Used	
J112-5	Not Used	
J112-6	Not Used	
J112-7	Not Used	
J112-8	Not Used	
J112-9	Not Used	
J112-10	Not Used	

J113 12-Volt Coil Drives (73-80)

J113-1	Key	
J113-2	LT BLU	+12VDC supply to lights below
J113-3	LT BLU-BLK	Coil drive 73 [Oz Head Light]
J113-4	LT BLU-BRN	Coil drive 74 [Topper Light]
J113-5	Not Used	
J113-6	LT BLU-ORN	Coil drive 76 [Spotlights (3 Total)]
J113-7	LT BLU-YEL	Coil drive 77 [Witch LED, Right]
J113-8	LT BLU-GRN	Coil drive 78 [Witch LED, Left]
J113-9	LT BLU-GRY	Coil drive 79 [Start Button Light]
J113-10	Not Used	

J200 Matrixed Switches, Rows

J200-1	WHT-BLK	Row 1 to playfield switches
J200-2	WHT-BRN	Row 2 to playfield switches
J200-3	WHT-RED	Row 3 to playfield switches
J200-4	WHT-ORN	Row 4 to playfield switches
J200-5	WHT-YEL	Row 5 to playfield switches
J200-6	WHT-GRN	Row 6 to playfield switches
J200-7	WHT-BLU	Row 7 to playfield switches
J200-8	WHT-VIO	Row 8 to playfield switches
J200-9	Key	

J201 Matrixed Switches, Columns (1-8)

J201-1	GRN-BLK	Column 1 to playfield switches
J201-2	GRN-BRN	Column 2 to playfield switches
J201-3	GRN-RED	Column 3 to playfield switches
J201-4	GRN-ORN	Column 4 to playfield switches
J201-5	GRN-YEL	Column 5 to playfield switches
J201-6	GRN-GRY	Column 6 to playfield switches
J201-7	GRN-BLU	Column 7 to playfield switches
J201-8	Key	
J201-9	GRN-VIO	Column 8 to playfield switches

J202 Matrixed Switches, Columns (9-16)

J202-1	GRY-BLK	Column 9 to playfield switches
J202-2	GRY-BRN	Column 10 to playfield switches
J202-3	GRY-RED	Column 11 to playfield switches
J202-4	GRY-ORN	Column 12 to playfield switches
J202-5	GRY-YEL	Column 13 to playfield switches
J202-6	Not Used	
J202-7	Key	
J202-8	Not Used	
J202-9	Not Used	

J203 Crystal Ball Control

J203-1	BLU	+5VDC to Crystal Ball PCB (above playfield)
J203-2	WHT	Control signals to Crystal Ball PCB
J203-3	BLU-WHT	Control signals to Crystal Ball PCB
J203-4	WHT-BLU	Control signals to Crystal Ball PCB
J203-5	Not Used	
J203-6	Not Used	
J203-7	BLK	Ground (cable shield) to Crystal Ball PCB

J601 Dedicated Switches (1-8)

J601-1	BLK	Dedicated switch common (Ground)
J601-2	BLK-YEL	Dedicated switch return 5 [Munchkinland Flipper EOS]
J601-3	BLK-GRN	Dedicated switch return 6 [Monkey Magnet Sense]
J601-4	BLK-ORN	Dedicated switch return 4 [Castle Flipper EOS]
J601-5	BLK-RED	Dedicated switch return 3 [Upper Right Flipper EOS]
J601-6	BLK-BRN	Dedicated switch return 2 [Right Flipper EOS]
J601-7	BLK-GRY	Dedicated switch return 1 [Left Flipper EOS]
J601-8	Not Used	
J601-9	Not Used	
J601-10	Key	

J602 Dedicated Switches (9-16)

J602-1	BLK	Dedicated switch common (Ground)
J602-2	YEL-GRY	Dedicated switch return 13 [Enter/Menu Button]
J602-3	YEL-GRN	Dedicated switch return 14 [Up/Volume+ Button]
J602-4	YEL-ORN	Dedicated switch return 12 [Castle Flipper EOS]
J602-5	YEL-RED	Dedicated switch return 11 [Upper Right Flipper EOS]
J602-6	YEL-BRN	Dedicated switch return 10 [Right Flipper EOS]
J602-7	YEL-BLK	Dedicated switch return 9 [Left Flipper EOS]
J602-8	YEL-BLU	Dedicated switch return 15 [Down/Volume- Button]
J602-9	Key	
J602-10	YEL-VIO	Dedicated switch return 16 [Escape/Service Credit Button]

J603 Dedicated Switches (17-24)

J603-1	BLK	Dedicated switch common (Ground)
J603-2	BLU-YEL	Dedicated switch return 21 [5th Coin Slot Switch]
J603-3	BLU-GRN	Dedicated switch return 22 [6th Coin Slot Switch]
J603-4	BLU-ORN	Dedicated switch return 20 [4th Coin Slot Switch]
J603-5	BLU-RED	Dedicated switch return 19 [Center Dollar Bill Acceptor]
J603-6	BLU-BRN	Dedicated switch return 18 [Right Coin Switch]
J603-7	BLU-BLK	Dedicated switch return 17 [Left Coin Switch]
J603-8	Key	
J603-9	Not Used	
J603-10	Not Used	

J604 Dedicated Switches (25-32)

J604-1	BLK	Dedicated switch common (Ground)
J604-2	Not Used	
J604-3	Not Used	
J604-4	Not Used	
J604-5	VIO-RED	Dedicated switch return 27 [Plumb Bob Tilt]
J604-6	VIO-BRN	Dedicated switch return 26 [Coin Door Open]
J604-7	Key	
J604-8	VIO-BLK	Dedicated switch return 25 [Start Button]
J604-9	Not Used	
J604-10	Not Used	

J701 AC Power Input (High)

J701-1	RED	49VAC from transformer (across RED lines)
J701-2	RED	49VAC from transformer (across RED lines)
J701-3	BLU	49VAC from transformer (across BLU lines)
J701-4	BLU	49VAC from transformer (across BLU lines)
J701-5	GRN	Chassis Ground
J701-6	GRN	Chassis Ground

J702 AC Power Input (Low)

J702-1	YEL	18VAC from transformer (across YEL lines)
J702-2	YEL	18VAC from transformer (across YEL lines)
J702-3	GRY	10VAC from transformer (across GRY lines)
J702-4	GRY	10VAC from transformer (across GRY lines)

J800 CPU Communication (RGB LED Control)

Mini USB cable to CPU Board USB connector

J802 RGB LED Control

J802-1	BLU	->	
J802-2	WHT	->	Control signals to playfield
J802-3	BLU-WHT	->	(WOZ Scarecrow RGB LED Board)
J802-4	WHT-BLU	->	
J802-5	BLK		Ground (cable shield)

J804 Flash Programming Access

J804-1	Not Used
J804-2	Not Used
J804-3	Not Used
J804-4	Not Used
J804-5	Not Used

JUSB CPU Communication (Switch Monitoring/Device Control)

Mini USB cable to CPU Board USB connector

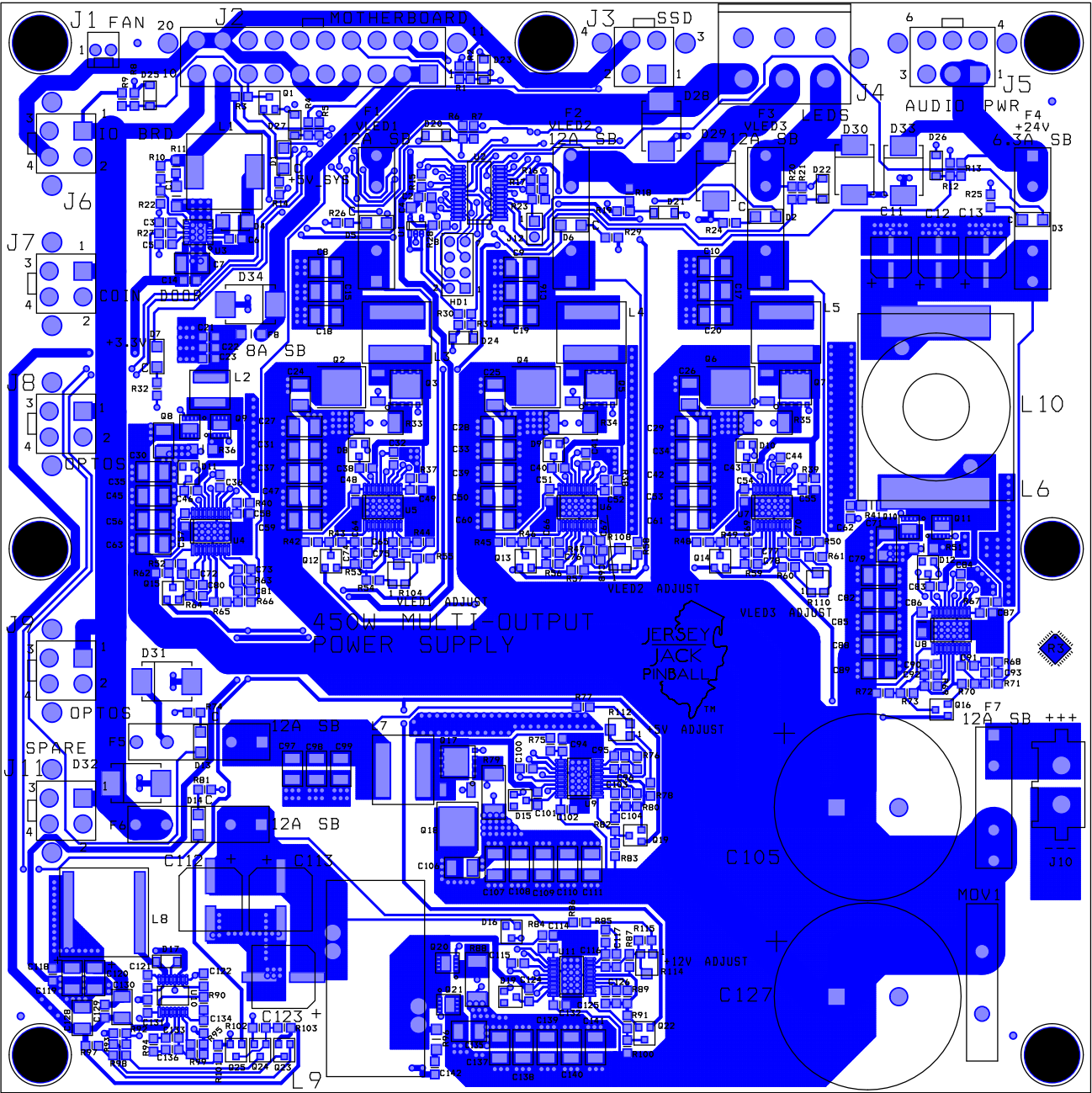
PWR1 DC Power Input

PWR1-1	YEL	+12VDC from ATX power supply or UPS Board, J6-1
PWR1-2	BLK	Ground from ATX power supply or UPS Board, J6-2
PWR1-3	BLK	Ground from ATX power supply or UPS Board, J6-3
PWR1-4	RED	+5VDC from ATX power supply or UPS Board, J6-4

Note: All I/O Board connections to J104-J113, J200-J202, 601-J603, J701 & J702 pass through in-line connectors mounted in back panel of Cabinet PCB Chassis Assembly.

Unified Power Source Board
15-0015-00, Revision R3

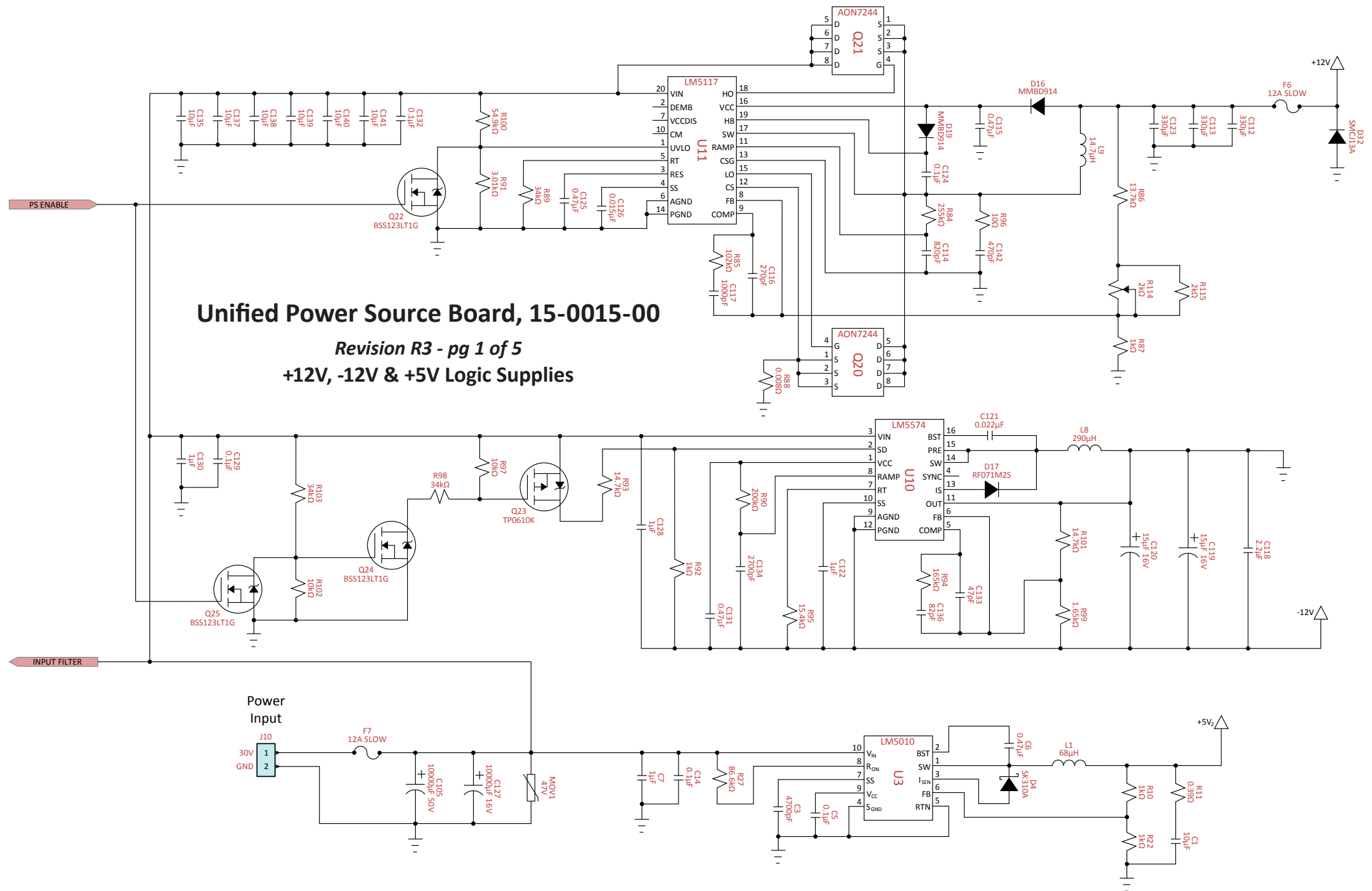
Component(s)	Part Number	Description
C1, C24-C31, C33-C35, C37, C39, C42, C45, C47, C50, C53, C56, C59-C61, C63, C71, C79, C82, C85, C88, C89, C106-C111, C135, C137-C141	102-106M-050	Capacitor, MLCC, 1210 SMT, 10μF, 50V, 20%
C2, C5, C14, C38, C40, C43, C46, C48, C51, C54, C57, C83, C86, C101, C102, C124, C129, C132	100-104K-050	Capacitor, MLCC, 0805 SMT, 0.1μF, 50V, 10%
C3	100-472K-050	Capacitor, MLCC, 0805 SMT, 4700pF, 50V, 10%
C4	102-475K-025	Capacitor, MLCC, 1206 SMT, 4.7μF, 25V, 10%
C6	100-473K-050	Capacitor, MLCC, 0805 SMT, 0.047μF, 50V, 10%
C7, C128, C130	102-105K-050	Capacitor, MLCC, 1210 SMT, 1μF, 50V, 10%
C8-C10, C15-C20, C97-C99	102-107M-010	Capacitor, MLCC, 1206 SMT, 100μF, 10V, 20%
C11-C13	109-476M-035	Capacitor, Elect (SMT), 47μF, 35V, 20%
C21-C23	100-226M-6P3	Capacitor, MLCC, 0805 SMT, 22μF, 6.3V, 20%
C32, C41, C44, C100, C122	100-105K-010	Capacitor, MLCC, 0805 SMT, 1μF, 10V, 10%
C36, C64, C66, C69, C72, C90, C103, C125, C131	100-474K-025	Capacitor, MLCC, 0805 SMT, 0.47μF, 25V, 10%
C49, C52, C55, C93, C94	100-681J-100	Capacitor, MLCC, 0805 SMT, 680pF, 100V, 5%
C58, C87, C114	100-821J-100	Capacitor, MLCC, 0805 SMT, 820pF, 100V, 5%
C62, C142	100-471J-100	Capacitor, MLCC, 0805 SMT, 470pF, 100V, 5%
C65, C67, C70, C73, C95	100-270J-100	Capacitor, MLCC, 0805 SMT, 27pF, 100V, 5%
C68, C75, C78, C96	100-103K-050	Capacitor, MLCC, 0805 SMT, 0.1μF, 50V, 10%
C74, C76, C77, C80, C104, C126	100-153J-100	Capacitor, MLCC, 0805 SMT, 0.015μF, 100V, 5%
C81	100-562K-050	Capacitor, MLCC, 0805 SMT, 5600pF, 50V, 10%
C84, C115	100-474K-016	Capacitor, MLCC, 0805 SMT, 0.47μF, 16V, 10%

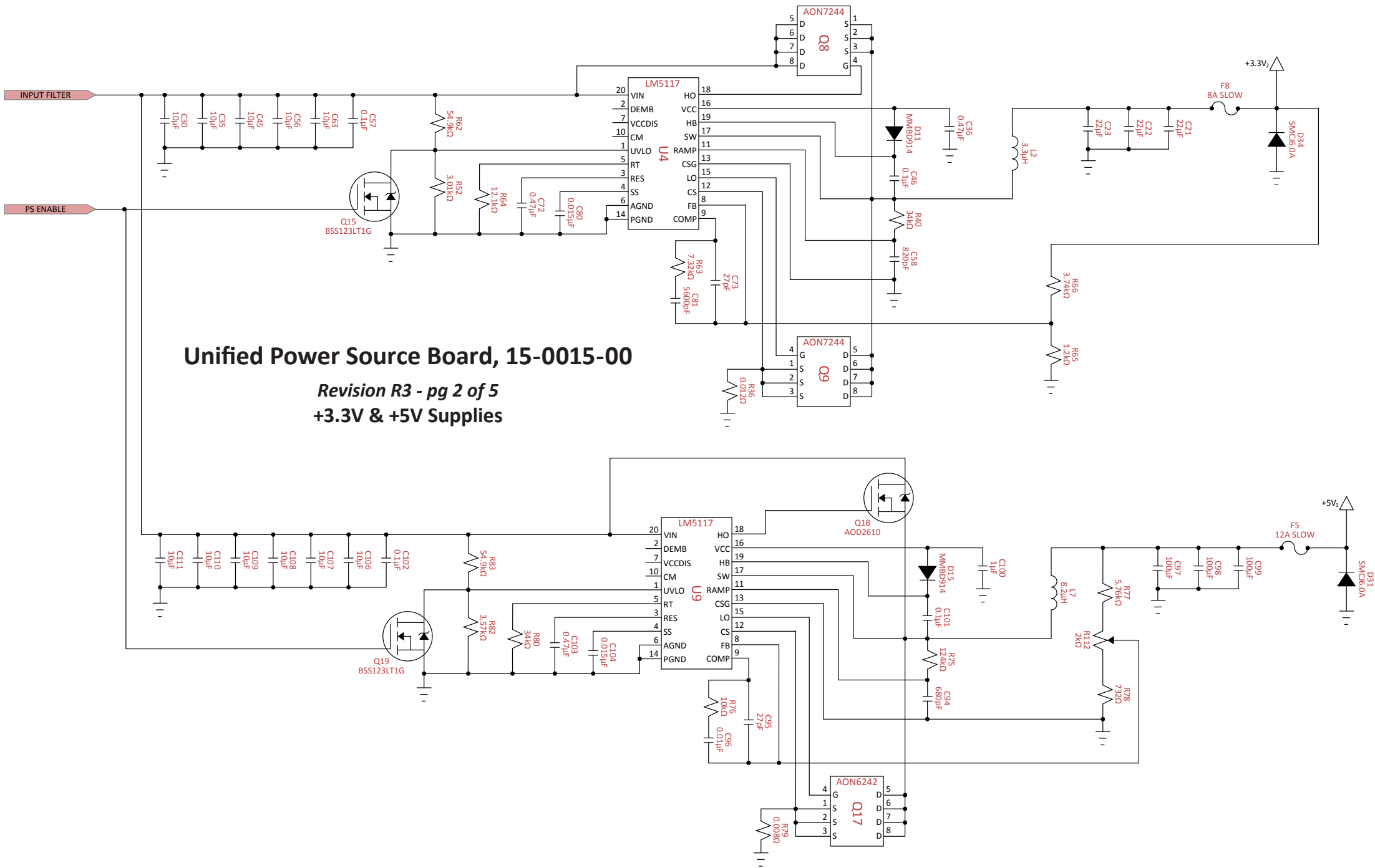


Component(s)	Part Number	Description
C91	100-181K-050	Capacitor, MLCC, 0805 SMT, 180pF, 50V, 10%
C92	100-224K-050	Capacitor, MLCC, 0805 SMT, 0.22μF, 50V, 10%
C105, C127	109-10KM-050	Capacitor, Elect (Radial), 10000μF, 50V, 20%
C112, C113, C123	109-337M-035	Capacitor, Elect (SMT), 330μF, 35V, 20%
C116	100-271K-050	Capacitor, MLCC, 0805 SMT, 270pF, 50V, 10%
C117	100-102K-050	Capacitor, MLCC, 0805 SMT, 1000pF, 50V, 10%
C118	100-225K-016	Capacitor, MLCC, 0805 SMT, 2.2μF, 16V, 10%
C119, C120	105-156K-016	Capacitor, Tantalum, 1210 SMT, 15μF, 16V, 10%
C121	100-223K-100	Capacitor, MLCC, 0805 SMT, 0.022μF, 100V, 10%
C133	100-470J-100	Capacitor, MLCC, 0805 SMT, 47pF, 100V, 5%
C134	100-272K-050	Capacitor, MLCC, 0805 SMT, 2700pF, 50V, 10%
C136	100-820K-050	Capacitor, MLCC, 0805 SMT, 82pF, 50V, 10%
D1-D3, D5-D7,		
D13, D14	24-0018-0S	LED, 1206 SMD, GRN, 570nm
D4	110-0005-0S	Diode, SK310A, SMT, Schottky Rectifier, 3A
D8-D12, D15,		
D16, D19	110-0006-0S	Diode, MMBD914, SMT, 75V, 200mA, 4ns
D17	110-0007-0S	Diode, RF071M2S, SMT, 200V, 700mA, 25ns
D20-D27	110-0008-0S	Diode, MMSZ5231B, SMT, Zener, 5.1V, 500mW
D28-D34		Not Populated
F1-F3, F5-F7	170-0212-SM	Fuse, Time Delay, 12A, 250V, 5mm x 20mm
F4	170-0263-SM	Fuse, Time Delay, 6.3A, 250V, 5mm x 20mm
F1-F7	22-8008-00	Fuse Clip, 5mm x 20mm, 250V, 15A, 2 Per Position
F8	170-2408-SS	Fuse, Time Delay, 1206 SMT, 8A, 24V
L1	190-0002-0S	Inductor, SMD, 68μH, 1.5A, 1kHz
L2	190-0003-0S	Inductor, SMD, 3.3μH, 8A, 26MHz
L3-L5, L7	190-0004-0S	Inductor, SMD, 8.2μH, 17.1A, 12MHz
L6		Not Populated
L8	190-0005-0S	Inductor, SMD, 290μH, 0.9A, 1kHz
L9	190-0006-0S	Inductor, SMD, 14.7μH
L10	190-0007-0T	Inductor, SMD, 27μH, 9.8A
MOV1	180-0004-00	Metal Oxide Varistor, 47V, 10J
Q1, Q12-Q16, Q19,		
Q22, Q24, Q25	130-0001-0S	MOSFET, BSS123LT1G, N-Ch, SOT-23, 100V, 170mA
Q2, Q4, Q6, Q18	130-0002-0S	MOSFET, AOD2610, N-Ch, TO-252, 60V, 42A
Q3, Q5, Q7, Q17	130-0003-0S	MOSFET, AON6242, N-Ch, DFN-8, 60V, 85A
Q8-Q11, Q20, Q21	130-0004-0S	MOSFET, AON7244, N-Ch, DFN-8, 60V, 50A
Q23	130-0005-0S	MOSFET, TP0610K, P-Ch, SOT-23, -60V, -185mA

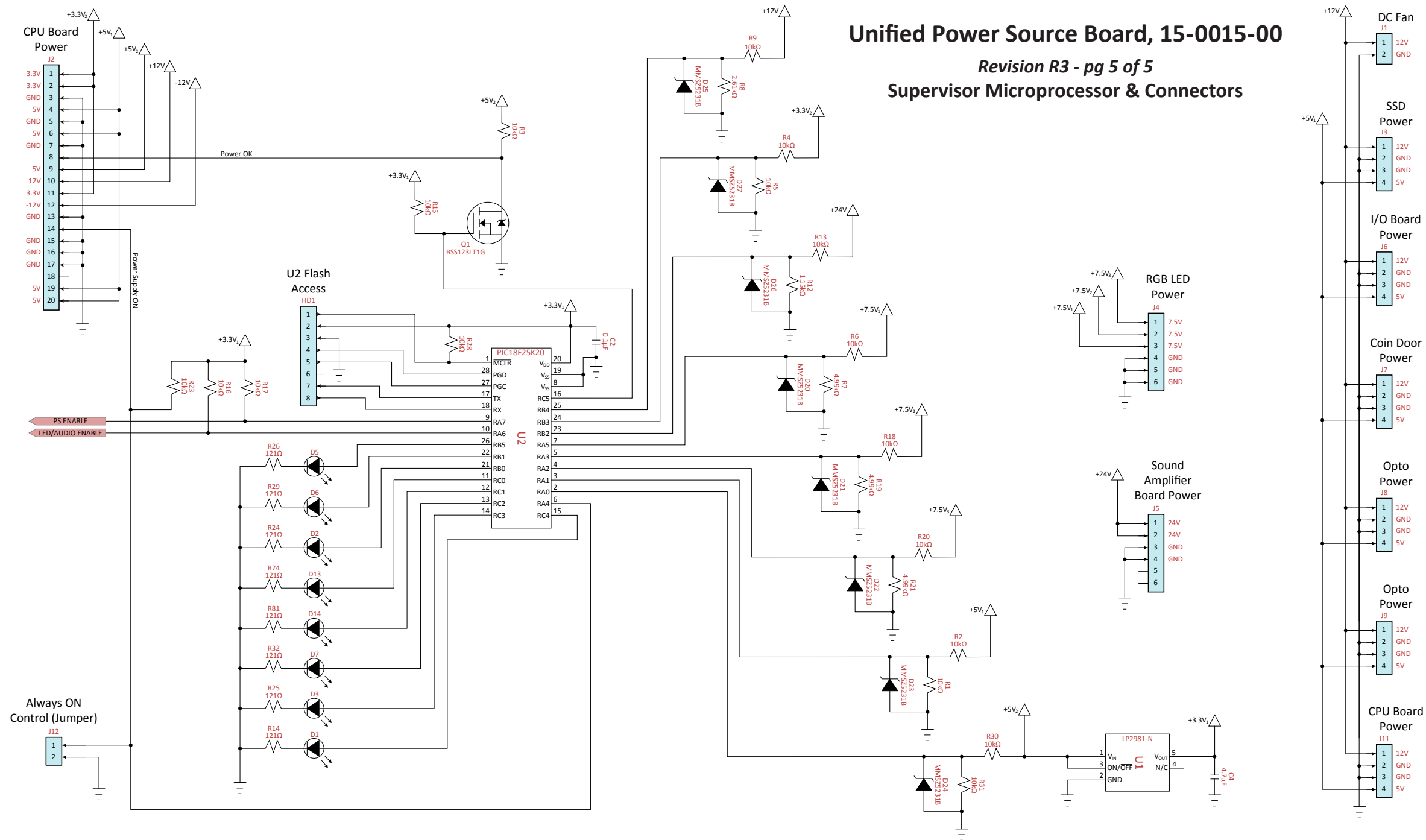
Component(s)	Part Number	Description
R1-R6, R9, R13,		
R15-R18, R20, R23,		
R28, R30, R31, R44,		
R47, R50, R76,		
R97, R102	120-010K-122	Resistor, 0805 SMT, 10kΩ, 0.125W, 1%
R7, R19, R21	120-4K99-332	Resistor, 0805 SMT, 4.99kΩ, 0.33W, 1%
R8, R73	120-2K61-122	Resistor, 0805 SMT, 2.61kΩ, 0.125W, 1%
R10, R22, R87, R92	120-001K-332	Resistor, 0805 SMT, 1kΩ, 0.33W, 1%
R11	120-0P39-122	Resistor, 0805 SMT, 0.39Ω, 0.125W, 1%
R12	120-1K15-122	Resistor, 0805 SMT, 1.15kΩ, 0.125W, 1%
R14, R24-R26, R29,		
R32, R74, R81	120-0121-122	Resistor, 0805 SMT, 121Ω, 0.125W, 1%
R27	120-86K6-122	Resistor, 0805 SMT, 86.6kΩ, 0.125W, 1%
R33-R35, R79, R88	123-P008-1H2	Resistor, 2512 SMT, 0.008Ω, 1W, 1%
R36, R51	124-P012-502	Resistor, 1206 SMT, 0.012Ω, 0.5W, 1%
R37-R39	120-110K-122	Resistor, 0805 SMT, 110kΩ, 0.125W, 1%
R40, R53, R56, R59,		
R80, R89, R98, R103	120-034K-122	Resistor, 0805 SMT, 34kΩ, 0.125W, 1%
R41, R96	124-0010-252	Resistor, 1206 SMT, 10Ω, 0.25W, 1%
R42, R45, R48, R62,		
R72, R83, R100	120-54K9-122	Resistor, 0805 SMT, 54.9kΩ, 0.125W, 1%
R43, R46, R49,		
R52, R91	120-3K01-122	Resistor, 0805 SMT, 3.01kΩ, 0.125W, 1%
R54, R57, R60, R78	120-0732-122	Resistor, 0805 SMT, 732Ω, 0.125W, 1%
R55, R58, R61, R77	120-5K76-122	Resistor, 0805 SMT, 5.76kΩ, 0.125W, 1%
R63	120-7K32-122	Resistor, 0805 SMT, 7.32kΩ, 0.125W, 1%
R64	120-12K1-122	Resistor, 0805 SMT, 12.1kΩ, 0.125W, 1%
R65, R70	120-01K2-332	Resistor, 0805 SMT, 1.2kΩ, 0.33W, 1%
R66	120-3K74-122	Resistor, 0805 SMT, 3.74kΩ, 0.125W, 1%
R67	120-274K-122	Resistor, 0805 SMT, 274kΩ, 0.125W, 1%
R68	120-90K9-122	Resistor, 0805 SMT, 90.9kΩ, 0.125W, 1%
R69	120-020K-122	Resistor, 0805 SMT, 20kΩ, 0.125W, 1%
R71	120-34K8-122	Resistor, 0805 SMT, 34.8kΩ, 0.125W, 1%
R75	120-124K-122	Resistor, 0805 SMT, 124kΩ, 0.125W, 1%
R82	120-3K57-122	Resistor, 0805 SMT, 3.57kΩ, 0.125W, 1%
R84	120-255K-122	Resistor, 0805 SMT, 255kΩ, 0.125W, 1%
R85	120-102K-122	Resistor, 0805 SMT, 102kΩ, 0.125W, 1%
R86	120-13K7-122	Resistor, 0805 SMT, 13.7kΩ, 0.125W, 1%

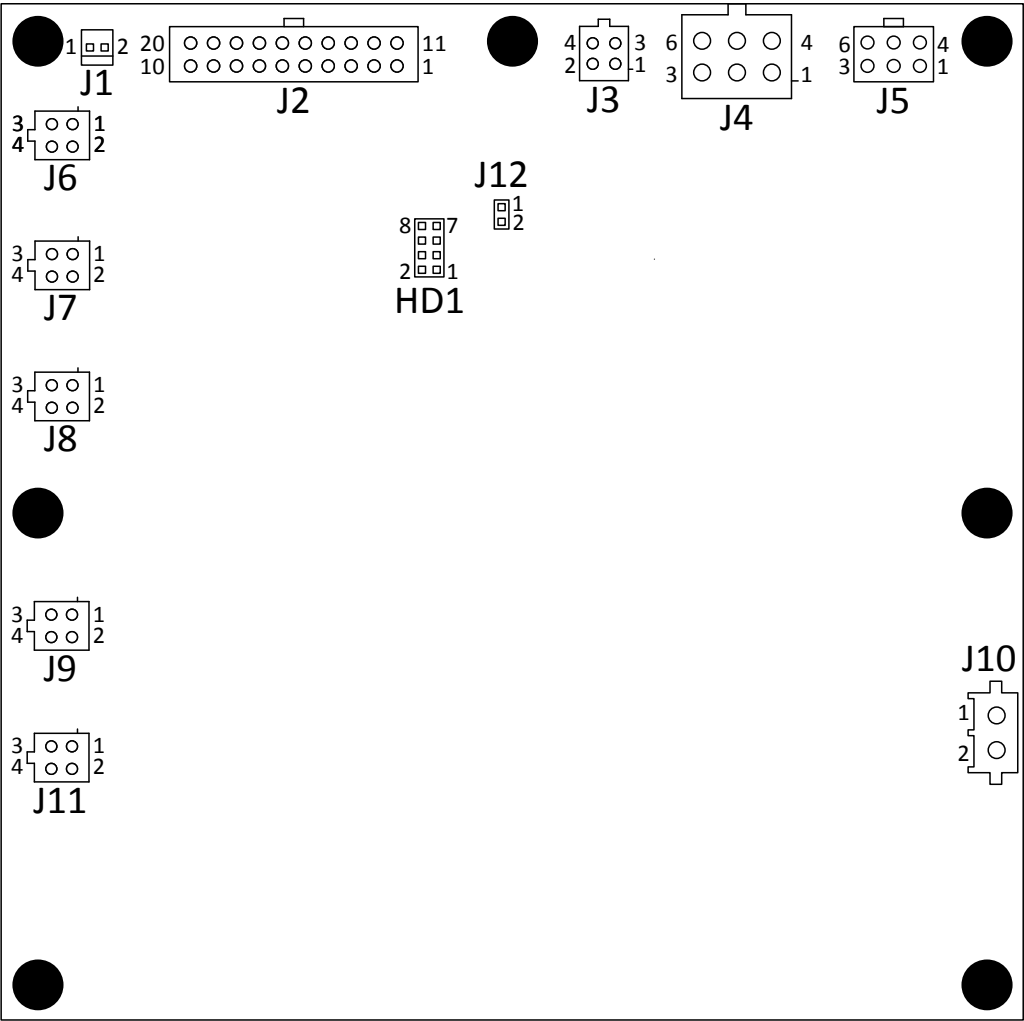
Component(s)	Part Number	Description
R90	120-200K-122	Resistor, 0805 SMT, 200kΩ, 0.125W, 1%
R93, R101	120-14K7-122	Resistor, 0805 SMT, 14.7kΩ, 0.125W, 1%
R94	120-165K-122	Resistor, 0805 SMT, 165kΩ, 0.125W, 1%
R95	120-15K4-122	Resistor, 0805 SMT, 15.4kΩ, 0.125W, 1%
R99	120-1K65-122	Resistor, 0805 SMT, 1.65kΩ, 0.125W, 1%
R104, R108, R110, R112, R114	125-002K-106	Potentiometer, SMT, 2kΩ, 0.1W, 25%
R115	120-002K-332	Resistor, 0805 SMT, 2kΩ, 0.33W, 1%
U1	142-0005-0S	Voltage Regulator, LM2981, SOT-23 SMT, 3.3V, 100mA
U2	141-0018-0S	Microcontroller, 8-Bit, 64MHz, PIC18F25K20, SSOP-28 SMT
U3	142-0006-0S	Voltage Regulator, LM5010, LLP-10 SMT, Adj, 1.25A
U4-U9, U11	142-0007-0S	Sync Buck Controller, LM5117, TSSOP-20 SMT, Adj, 3.3A
U10	142-0008-0S	Voltage Regulator, LM5574, TSSOP-16 SMT, Adj, 1A
HD1	31-2508-08	Header, Male, 8-pin, 2 Rows, 2.54mm
J1	31-2504-02	Header, Male, 2-pin, 2.54mm
J2	31-2503-20	Connector Header, Male, 20-pin, 2 Rows, 4.2mm
J3, J6-J9, J11	31-2503-04	Connector Header, Male, 4-pin, 2 Rows, 4.2mm
J4	31-2509-06	Connector Header, Male, 6-pin, 2 Rows, 6.71mm
J5	31-2503-06	Connector Header, Male, 6-pin, 2 Rows, 4.2mm
J10	31-2510-02	Connector Header, Male, 2-pin, 6.35mm
J12	31-2511-02	Header, Unshrouded, Male, 2-pin, 2.54mm











Unified Power Source Board, 15-0015-00
Connector Pin-outs

HD1 Flash Programming Access

HD1-1	Not Used
HD1-2	Not Used
HD1-3	Not Used
HD1-4	Not Used
HD1-5	Not Used
HD1-6	Not Used
HD1-7	Not Used
HD1-8	Not Used

J1 Muffin Fan Power

J1-1	YEL	+12VDC to PCB Chassis muffin fan
J1-2	BLK	Ground to PCB Chassis muffin fan

J2 CPU Board Power

J2-1	ORN	+3.3VDC to CPU Board, JPWR1-1
J2-2	ORN	+3.3VDC to CPU Board, JPWR1-2
J2-3	BLK	Ground to CPU Board, JPWR1-3
J2-4	RED	+5VDC to CPU Board, JPWR1-4
J2-5	BLK	Ground to CPU Board, JPWR1-5
J2-6	RED	+5VDC to CPU Board, JPWR1-6
J2-7	BLK	Ground to CPU Board, JPWR1-7
J2-8	GRY	Power OK signal to CPU Board, JPWR1-8
J2-9	VIO	+5VDC Standby to CPU Board, JPWR1-9
J2-10	YEL	+12VDC to CPU Board, JPWR1-10
J2-11	ORN	+3.3VDC to CPU Board, JPWR1-11
J2-12	BLU	-12VDC to CPU Board, JPWR1-12
J2-13	BLK	Ground to CPU Board, JPWR1-13
J2-14	GRN	Power Supply ON signal to CPU Board, JPWR1-14
J2-15	BLK	Ground to CPU Board, JPWR1-15
J2-16	BLK	Ground to CPU Board, JPWR1-16
J2-17	BLK	Ground to CPU Board, JPWR1-17
J2-18	Not Used	
J2-19	RED	+5VDC to CPU Board, JPWR1-19
J2-20	RED	+5VDC to CPU Board, JPWR1-20

J3 Solid State Drive Power

J3-1	YEL	+12VDC to solid state drive
J3-2	BLK	Ground to solid state drive
J3-3	BLK	Ground to solid state drive
J3-4	RED	+5VDC to solid state drive

J4 RGB LED Power

J4-1	VIO	+7.5VDC to RGB LED string
J4-2	VIO	+7.5VDC to RGB LED string
J4-3	VIO	+7.5VDC to RGB LED string
J4-4	BLK	Ground to RGB LED string
J4-5	BLK	Ground to RGB LED string
J4-6	BLK	Ground to RGB LED string

J5 Sound Amplifier Board Power

J5-1	VIO	+24VDC to Sound Amplifier Board, J1-1
J5-2	Not Used	
J5-3	BLK	Ground to Sound Amplifier Board, J1-3
J5-4	Not Used	
J5-5	Not Used	
J5-6	Not Used	

J6 I/O Board Power

J6-1	YEL	+12VDC to I/O Board, PWR1-1
J6-2	BLK	Ground to I/O Board, PWR1-2
J6-3	BLK	Ground to I/O Board, PWR1-3
J6-4	RED	+5VDC to I/O Board, PWR1-4

J7 Coin Door Power

J7-1	YEL	+12VDC to coin door
J7-2	BLK	Ground to coin door
J7-3	BLK	Ground to coin door
J7-4	RED	+5VDC to coin door

J8 Right-side Opto I/O Board Power

J8-1	Not Used	
J8-2	BLK	Ground to Right-side Opto I/O Board, PWR1-2 and Magnet Sense Board, J1-1
J8-3	Not Used	
J8-4	RED	+5VDC to Right-side Opto I/O Board, PWR1-1 and Magnet Sense Board, J1-3

J9 Left-side Opto I/O Board Power

J9-1	Not Used	
J9-2	BLK	Ground to Left-side Opto I/O Board, PWR1-2 and 5-Ball Trough Transmitter Board, J100-2 and 5-Ball Trough Receiver Board, J100-2
J9-3	Not Used	
J9-4	RED	+5VDC to Left-side Opto I/O Board, PWR1-1 and 5-Ball Trough Transmitter Board, J100-1 and 5-Ball Trough Receiver Board, J100-1

J10 DC Power Input

J10-1	BRN	+30VDC from bridge rectifier inside Cabinet PCB Chassis, + leg
J10-2	BRN-WHT	Ground from bridge rectifier inside Cabinet PCB Chassis, - leg

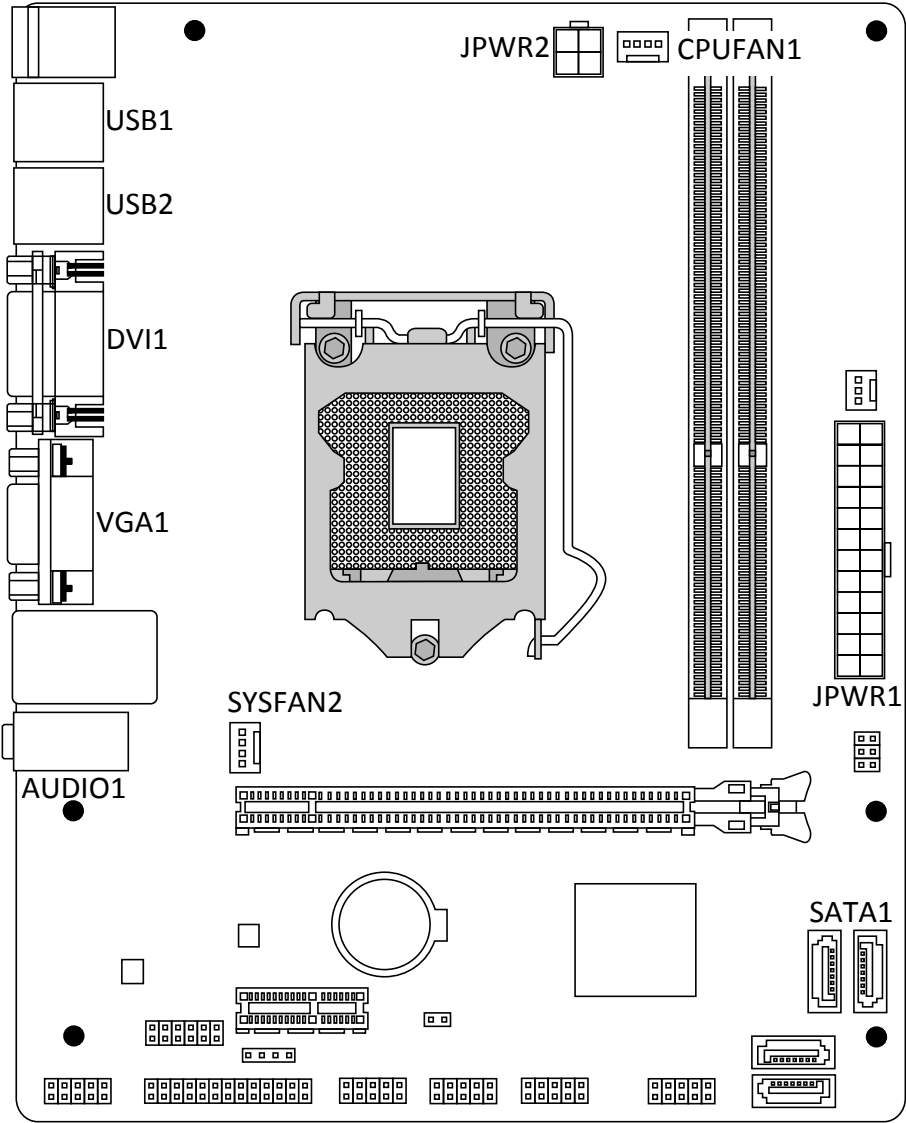
J11 CPU Board Power

J11-1	YEL	+12VDC to CPU Board, JPWR2-3, 4
J11-2	BLK	Ground to CPU Board, JPWR2-1, 2
J11-3	Not Used	
J11-4	Not Used	

J12 Power Supply Always ON Control

J12-1	N/A	Jumpered to J12-2
J12-2	N/A	Jumpered to J12-1

Note: All UPS Board connections to J4 & J7-J9 pass through in-line connectors mounted in back panel of Cabinet PCB Chassis Assembly.



CPU Board, 15-0000-00
Connector Pin-outs

JPWR2 DC Power Input

JPWR2-1	BLK	Ground from ATX Power Supply or UPS Board, J11-2
JPWR2-2	BLK	Ground jumpered from pin 1
JPWR2-3	YEL-BLK	+12VDC from ATX Power Supply or UPS Board, J11-1
JPWR2-4	YEL-BLK	+12VDC jumpered from pin 3

CPUFAN1 CPU Fan Power

Primary connection for CPU fan (on CPU Board)

JPWR1 DC Power Input

JPWR1-1	ORN	+3.3VDC from ATX Power Supply or UPS Board, J2-1
JPWR1-2	ORN	+3.3VDC from ATX Power Supply or UPS Board, J2-2
JPWR1-3	BLK	Ground from ATX Power Supply or UPS Board, J2-3
JPWR1-4	RED	+5VDC from ATX Power Supply or UPS Board, J2-4
JPWR1-5	BLK	Ground from ATX Power Supply or UPS Board, J2-5
JPWR1-6	RED	+5VDC from ATX Power Supply or UPS Board, J2-6
JPWR1-7	BLK	Ground from ATX Power Supply or UPS Board, J2-7
JPWR1-8	GRY	Power OK signal from ATX Power Supply or UPS Board, J2-8
JPWR1-9	VIO	+5VDC Standby from ATX Power Supply or UPS Board, J2-9
JPWR1-10	YEL	+12VDC from ATX Power Supply or UPS Board, J2-10
JPWR1-11	ORN	+3.3VDC from ATX Power Supply or UPS Board, J2-11
JPWR1-12	BLU	-12VDC from ATX Power Supply or UPS Board, J2-12
JPWR1-13	BLK	Ground from ATX Power Supply or UPS Board, J2-13
JPWR1-14	GRN	Power Supply ON signal from ATX Power Supply or UPS Board, J2-14
JPWR1-15	BLK	Ground from ATX Power Supply or UPS Board, J2-15
JPWR1-16	BLK	Ground from ATX Power Supply or UPS Board, J2-16
JPWR1-17	BLK	Ground from ATX Power Supply or UPS Board, J2-17
JPWR1-18	Not Used	
JPWR1-19	RED	+5VDC from ATX Power Supply or UPS Board, J2-19
JPWR1-20	RED	+5VDC from ATX Power Supply or UPS Board, J2-20

SATA1 SATA Data Input/Output

SATA cable to solid state hard drive (inside Cabinet PCB Chassis)

SYSFAN2 System Fan Power

Secondary connection for CPU fan (on CPU Board)

AUDIO1 Audio Output

3.5mm audio cable to Sound Amplifier Board, J2, through Ground Loop Isolator

VGA1 Video Output

DVI1 Video Output

DVI or VGA cable to 27" LCD monitor (in backbox)

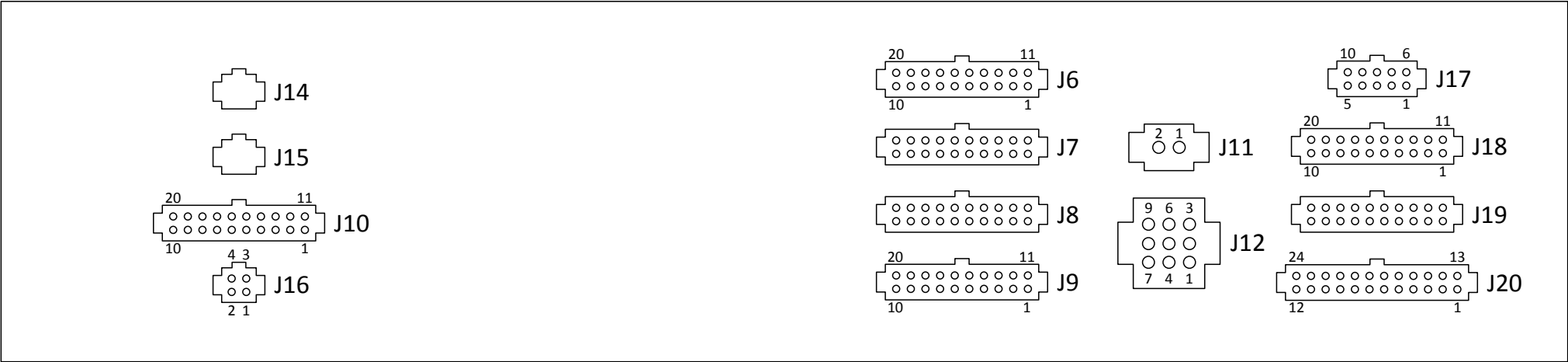
USB1 USB Ports (2)

WOZ Game Security Dongle
USB extension cable to front of cabinet (inside coin door)

USB2 USB Ports (2)

Mini USB cable to I/O Board, JUSB
Mini USB cable to I/O Board, J800

Note: All ATX Power Supply/CPU Board connections to JPWR1 and JPWR2 pass through in-line connectors mounted in back panel of Cabinet PCB Chassis Assembly.



Rear Panel of Cabinet PCB Chassis Assembly, 15-5000-00
Pass-through Connector Pin-outs
(games manufactured before Oct 1, 2013)

Inside PCB Chassis	Pin	Wire Color	Outside PCB Chassis	Inside PCB Chassis	Pin	Wire Color	Outside PCB Chassis
J6 70-Volt Coil Drives (1-16)				J7 70-Volt Coil Drives (17-32)			
I/O Board, J105-1	J6-1	RED	+70VDC supply to coils below	I/O Board, J106-1	J7-1	ORN	+70VDC supply to coils below
	J6-2	Not Used			J7-2	Not Used	
	J6-3	Not Used			J7-3	Not Used	
I/O Board, J105-4	J6-4	RED-GRN	Coil drive 14 [Upper Right Flipper Hold]	I/O Board, J106-4	J7-4	ORN-GRN	Coil drive 22 [5-Ball Trough VUK]
I/O Board, J105-5	J6-5	RED-YEL	Coil drive 13 [Upper Right Flipper Power]	I/O Board, J106-5	J7-5	ORN-YEL	Coil drive 21 [Ball Auto-Launch]
I/O Board, J105-6	J6-6	RED-ORN	Coil drive 12 [Right Flipper Hold]	I/O Board, J106-6	J7-6	ORN-GRY	Coil drive 20 [Drop Target Reset (Up)]
I/O Board, J105-7	J6-7	RED-GRY	Coil drive 11 [Right Flipper Power]	I/O Board, J106-7	J7-7	ORN-RED	Coil drive 19 [Throne Room VUK]
I/O Board, J105-8	J6-8	RED-BRN	Coil drive 10 [Left Flipper Hold]		J7-8	Not Used	
	J6-9	Not Used		I/O Board, J106-9	J7-9	ORN-BRN	Coil drive 18 [Ramp Ball Lock]
I/O Board, J105-10	J6-10	RED-BLK	Coil drive 9 [Left Flipper Power]	I/O Board, J106-10	J7-10	ORN-BLK	Coil drive 17 [Ball Diverter]
I/O Board, J104-1	J6-11	BRN	+70V supply to coils below	I/O Board, J107-1	J7-11	TAN	+70VDC supply to magnets below
	J6-12	Not Used			J7-12	Not Used	
	J6-13	Not Used			J7-13	Not Used	
I/O Board, J104-4	J6-14	BRN-GRN	Coil drive 6 [Crystal Ball VUK]		J7-14	Not Used	
I/O Board, J104-5	J6-15	BRN-YEL	Coil drive 5 [Winkie Guard VUK]	I/O Board, J107-5	J7-15	TAN-YEL	Coil drive 29 [Monkey Magnet]
I/O Board, J104-6	J6-16	BRN-ORN	Coil drive 4 [State Fair Balloon Bumper]	I/O Board, J107-6	J7-16	TAN-ORN	Coil drive 28 [Right Orbit Magnet]
I/O Board, J104-7	J6-17	BRN-RED	Coil drive 3 [Center Tree Bumper]		J7-17	Not Used	
I/O Board, J104-8	J6-18	BRN-GRY	Coil drive 2 [Right Tree Bumper]	I/O Board, J107-8	J7-18	TAN-RED	Coil drive 27 [Top Lanes Magnet]
I/O Board, J104-9	J6-19	BRN-BLK	Coil drive 1 [Left Tree Bumper]	I/O Board, J107-9	J7-19	TAN-BRN	Coil drive 26 [Witch Bottom Magnet]
	J6-20	Not Used		I/O Board, J107-10	J7-20	TAN-BLK	Coil drive 25 [Witch Top Magnet]

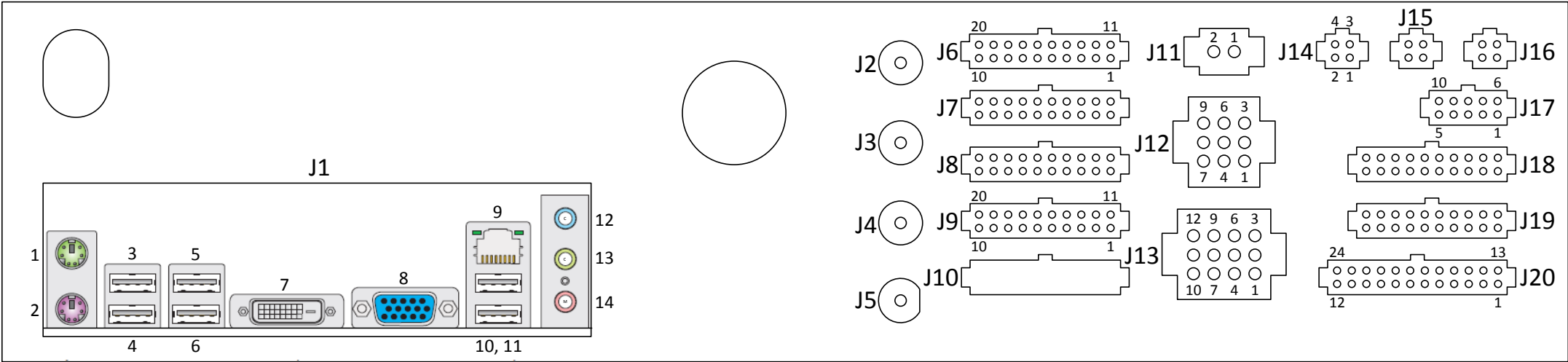
Inside PCB Chassis	Pin	Wire Color	Outside PCB Chassis
J8 70-Volt Coil Drives (33-40) & Switch Matrix Rows			
I/O Board, J108-1	J8-1	PNK	+70VDC supply to coils below
I/O Board, J108-2	J8-2	PNK-VIO	Coil drive 40 [Top Lanes Slingshot]
I/O Board, J108-3	J8-3	PNK-BLU	Coil drive 39 [Right Slingshot]
I/O Board, J108-4	J8-4	PNK-GRN	Coil drive 38 [Left Slingshot]
	J8-5	Not Used	
	J8-6	Not Used	
I/O Board, J108-7	J8-7	PNK-ORN	Coil drive 36 [Munchkinland Flipper Hold]
I/O Board, J108-8	J8-8	PNK-RED	Coil drive 35 [Munchkinland Flipper Power]
I/O Board, J108-9	J8-9	PNK-BRN	Coil drive 34 [Castle Flipper Hold]
I/O Board, J108-10	J8-10	PNK-BLK	Coil drive 33 [Castle Flipper Power]
I/O Board, J200-1	J8-11	WHT-BLK	Row 1 to playfield switches
I/O Board, J200-2	J8-12	WHT-BRN	Row 2 to playfield switches
I/O Board, J200-3	J8-13	WHT-RED	Row 3 to playfield switches
I/O Board, J200-4	J8-14	WHT-ORN	Row 4 to playfield switches
I/O Board, J200-5	J8-15	WHT-YEL	Row 5 to playfield switches
I/O Board, J200-6	J8-16	WHT-GRN	Row 6 to playfield switches
I/O Board, J200-7	J8-17	WHT-BLU	Row 7 to playfield switches
I/O Board, J200-8	J8-18	WHT-VIO	Row 8 to playfield switches
	J8-19	Not Used	
	J8-20	Not Used	
J9 Switch Matrix Columns			
I/O Board, J201-1	J9-1	GRN-BLK	Column 1 to playfield switches
I/O Board, J201-2	J9-2	GRN-BRN	Column 2 to playfield switches
I/O Board, J201-3	J9-3	GRN-RED	Column 3 to playfield switches
I/O Board, J201-4	J9-4	GRN-ORN	Column 4 to playfield switches
I/O Board, J201-5	J9-5	GRN-YEL	Column 5 to playfield switches
I/O Board, J201-6	J9-6	GRN-GRY	Column 6 to playfield switches
I/O Board, J201-7	J9-7	GRN-BLU	Column 7 to playfield switches
I/O Board, J201-9	J9-8	GRN-VIO	Column 8 to playfield switches
	J9-9	Not Used	
	J9-10	Not Used	
I/O Board, J202-1	J9-11	GRY-BLK	Column 9 to playfield switches
I/O Board, J202-2	J9-12	GRY-BRN	Column 10 to playfield switches
I/O Board, J202-3	J9-13	GRY-RED	Column 11 to playfield switches
I/O Board, J202-4	J9-14	GRY-ORN	Column 12 to playfield switches
I/O Board, J202-5	J9-15	GRY-YEL	Column 13 to playfield switches
	J9-16	Not Used	
	J9-17	Not Used	
	J9-18	Not Used	

Inside PCB Chassis	Pin	Wire Color	Outside PCB Chassis
	J9-19	Not Used	
	J9-20	Not Used	
J10 CPU Power			
CPU Board, JPWR1-1	J10-1	ORN	+3.3VDC from ATX Power Supply
CPU Board, JPWR1-2	J10-2	ORN	+3.3VDC from ATX Power Supply
CPU Board, JPWR1-3	J10-3	BLK	Ground from ATX Power Supply
CPU Board, JPWR1-4	J10-4	RED	+5VDC from ATX Power Supply
CPU Board, JPWR1-5	J10-5	BLK	Ground from ATX Power Supply
CPU Board, JPWR1-6	J10-6	RED	+5VDC from ATX Power Supply
CPU Board, JPWR1-7	J10-7	BLK	Ground from ATX Power Supply
CPU Board, JPWR1-8	J10-8	GRY	Power OK signal from ATX Power Supply
CPU Board, JPWR1-9	J10-9	VIO	+5VDC Standby from ATX Power Supply
CPU Board, JPWR1-10	J10-10	YEL	+12VDC from ATX Power Supply
CPU Board, JPWR1-13	J10-11	ORN	+3.3VDC from ATX Power Supply
CPU Board, JPWR1-14	J10-12	BLU	-12VDC from ATX Power Supply
CPU Board, JPWR1-15	J10-13	BLK	Ground from ATX Power Supply
CPU Board, JPWR1-16	J10-14	GRN	Power Supply ON signal from ATX Power Supply
CPU Board, JPWR1-17	J10-15	BLK	Ground from ATX Power Supply
CPU Board, JPWR1-18	J10-16	BLK	Ground from ATX Power Supply
CPU Board, JPWR1-19	J10-17	BLK	Ground from ATX Power Supply
	J10-18	Not Used	
CPU Board, JPWR1-21	J10-19	RED	+5VDC from ATX Power Supply
CPU Board, JPWR1-22	J10-20	RED	+5VDC from ATX Power Supply
J11 Ground			
I/O Board, J701-5	J11-1	GRN	Cabinet ground
I/O Board, J701-6	J11-2	GRN	Cabinet ground
J12 AC Power Input			
I/O Board, J701-2	J12-1	RED	49VAC from transformer (across RED lines) - through coin door interlock switch
I/O Board, J701-4	J12-2	BLU	49VAC from transformer (across BLU lines) - through coin door interlock switch
I/O Board, J701-3	J12-3	BLU	49VAC from transformer (across BLU lines)
I/O Board, J702-1	J12-4	YEL	18VAC from transformer (across YEL lines)
I/O Board, J702-2	J12-5	YEL	18VAC from transformer (across YEL lines)
I/O Board, J701-1	J12-6	RED	49VAC from transformer (across RED lines)
	J12-7	Not Used	
I/O Board, J702-3	J12-8	GRY	10VAC from transformer (across GRY lines)
I/O Board, J702-4	J12-9	GRY	10VAC from transformer (across GRY lines)

Inside PCB Chassis	Pin	Wire Color	Outside PCB Chassis
J14 Not Used			
J15 Not Used			
J16 CPU Power			
CPU Board, JPWR2-1	J16-1	BLK	Ground from ATX Power Supply
CPU Board, JPWR2-2	J16-2	BLK	Ground from ATX Power Supply
CPU Board, JPWR2-3	J16-3	YEL-BLK	+12VDC from ATX Power Supply
CPU Board, JPWR2-4	J16-4	YEL-BLK	+12VDC from ATX Power Supply
J17 Dedicated Switches (1-8)			
I/O Board, J601-1	J17-1	BLK	Dedicated switch common (Ground)
	J17-2	Not Used	
I/O Board, J601-4	J17-3	BLK-ORN	Dedicated switch return 4 [Castle Flipper EOS]
I/O Board, J601-5	J17-4	BLK-RED	Dedicated switch return 3 [Upper Right Flipper EOS]
I/O Board, J601-6	J17-5	BLK-BRN	Dedicated switch return 2 [Right Flipper EOS]
I/O Board, J603-1	J17-6	BLK	Dedicated switch common (Ground)
I/O Board, J601-7	J17-7	BLK-GRY	Dedicated switch return 1 [Left Flipper EOS]
	J17-8	Not Used	
I/O Board, J601-3	J17-9	BLK-GRN	Dedicated switch return 6 [Monkey Magnet Sense]
I/O Board, J601-2	J17-10	BLK-YEL	Dedicated switch return 5 [Munchkinland Flipper EOS]
J18 20-Volt Coil Drives (49-64)			
I/O Board, J110-1	J18-1	PLM	+20VDC supply to coils below
	J18-2	Not Used	
	J18-3	Not Used	
	J18-4	Not Used	
	J18-5	Not Used	
	J18-6	Not Used	
I/O Board, J110-6	J18-7	PLM-ORN	Coil drive 52 [House Wall Drop]
I/O Board, J110-5	J18-8	PLM-RED	Coil drive 51 [Castle Double Doors Latch]
I/O Board, J110-3	J18-9	PLM-BRN	Coil drive 50 [Castle Doors VUK]
I/O Board, J110-2	J18-10	PLM-BLK	Coil drive 49 [Drop Target Retract (Down)]
I/O Board, J111-1	J18-11	BLU	+20VDC supply to motors below
	J18-12	Not Used	
	J18-13	Not Used	
	J18-14	Not Used	

Inside PCB Chassis	Pin	Wire Color	Outside PCB Chassis
	J18-15	Not Used	
	J18-16	Not Used	
	J18-17	Not Used	
I/O Board, J111-5	J18-18	BLU-RED	Coil drive 59 [Castle Double Doors Motor, Right]
I/O Board, J111-4	J18-19	BLU-BRN	Coil drive 58 [Castle Double Doors Motor, Left]
I/O Board, J111-2	J18-20	BLU-BLK	Coil drive 57 [Castle Single Door Motor]
J19 12-Volt Coil Drives (41, 43-48, 73-80)			
I/O Board, J109-1	J19-1	YEL	+12VDC supply to motors/relays below
I/O Board, J109-10	J19-2	YEL-VIO	Coil drive 48 [Witch Stepper Motor 4]
I/O Board, J109-9	J19-3	YEL-BLU	Coil drive 47 [Witch Stepper Motor 3]
I/O Board, J109-8	J19-4	YEL-GRN	Coil drive 46 [Witch Stepper Motor 2]
I/O Board, J109-7	J19-5	YEL-GRY	Coil drive 45 [Witch Stepper Motor 1]
I/O Board, J109-6	J19-6	YEL-ORN	Coil drive 44 [Monkey Motor Relay], Motor Relay Board, J1-2
I/O Board, J109-4	J19-7	YEL-RED	Coil drive 43 [Monkey Motor], Motor Relay Board, J1-3
	J19-8	Not Used	
	J19-9	Not Used	
I/O Board, J109-2	J19-10	YEL-BLK	Coil drive 41 [House Motor]
I/O Board, J113-2	J19-11	LT BLU	+12VDC supply to lights below
	J19-12	Not Used	
I/O Board, J113-9	J19-13	LT BLU-GRY	Coil drive 79 [Start Button Light]
I/O Board, J113-8	J19-14	LT BLU-GRN	Coil drive 78 [Witch LED, Left]
I/O Board, J113-7	J19-15	LT BLU-YEL	Coil drive 77 [Witch LED, Right]
I/O Board, J113-6	J19-16	LT BLU-ORN	Coil drive 76 [Spotlights (3 Total)]
	J19-17	Not Used	
	J19-18	Not Used	
I/O Board, J113-4	J19-19	LT BLU-BRN	Coil drive 74 [Topper Light]
I/O Board, J113-3	J19-20	LT BLU-BLK	Coil drive 73 [Oz Head Light]

Inside PCB Chassis	Pin	Wire Color	Outside PCB Chassis
<i>J20 Dedicated Switches (9-27) & 12/20-Volt Coil Drives (42, 65)</i>			
I/O Board, J109-3	J20-1	YEL-BRN	Coil drive 42 [Shaker Motor]
I/O Board, J604-6	J20-2	VIO-BRN	Dedicated switch return 26 [Coin Door Open]
I/O Board, J602-1	J20-3	BLK	Dedicated switch common (Ground)
I/O Board, J602-10	J20-4	YEL-VIO	Dedicated switch return 16 [Escape/Service Credit Button]
I/O Board, J602-8	J20-5	YEL-BLU	Dedicated switch return 15 [Down/Volume- Button]
I/O Board, J602-3	J20-6	YEL-GRN	Dedicated switch return 14 [Up/Volume+ Button]
I/O Board, J602-2	J20-7	YEL-GRY	Dedicated switch return 13 [Enter/Menu Button]
I/O Board, J602-4	J20-8	YEL-ORN	Dedicated switch return 12 [Right Flipper Switch, Upper]
I/O Board, J602-5	J20-9	YEL-RED	Dedicated switch return 11 [Right Flipper Switch, Lower]
I/O Board, J602-6	J20-10	YEL-BRN	Dedicated switch return 10 [Left Flipper Switch, Upper]
I/O Board, J602-7	J20-11	YEL-BLK	Dedicated switch return 9 [Left Flipper Switch, Lower]
I/O Board, J112-3	J20-12	VIO-BLK	Coil drive 65 [Knocker]
I/O Board, J109-1 (wire loop from J19, P1)	J20-13	YEL	+12VDC supply to Shaker Motor
I/O Board, J604-8	J20-14	VIO-BLK	Dedicated switch return 25 [Start Button]
I/O Board, J604-1	J20-15	BLK	Dedicated switch common (Ground)
I/O Board, J604-5	J20-16	VIO-RED	Dedicated switch return 27 [Plumb Bob Tilt]
	J20-17	Not Used	
I/O Board, J603-3	J20-18	BLU-GRN	Dedicated switch return 22 [6th Coin Slot Switch]
I/O Board, J603-2	J20-19	BLU-YEL	Dedicated switch return 21 [5th Coin Slot Switch]
I/O Board, J603-4	J20-20	BLU-ORN	Dedicated switch return 20 [4th Coin Slot Switch]
I/O Board, J603-5	J20-21	BLU-RED	Dedicated switch return 19 [Center Dollar Bill Acceptor]
I/O Board, J603-6	J20-22	BLU-BRN	Dedicated switch return 18 [Right Coin Switch]
I/O Board, J603-7	J20-23	BLU-BLK	Dedicated switch return 17 [Left Coin Switch]
I/O Board, J112-1	J20-24	VIO	+20VDC supply to Knocker Coil



Rear Panel of Cabinet PCB Chassis Assembly, 15-5000-01
Pass-through Connector Pin-outs
(games manufactured on/after Oct 1, 2013)

Inside PCB Chassis	Pin	Wire Color	Outside PCB Chassis
J1 CPU Board Connections			
CPU PS-2 Mouse In	J1-1	N/A	Not Used
CPU PS-2 Keyboard In	J1-2	N/A	Not Used
CPU USB 2.0 Port	J1-3	N/A	WOZ Game Security Dongle
CPU USB 2.0 Port	J1-4	N/A	USB extension cable to front of cabinet (inside coin door)
CPU USB 2.0 Port	J1-5	N/A	USB cable to I/O Board, JUSB
CPU USB 2.0 Port	J1-6	N/A	USB cable to I/O Board, J800
CPU DVI Out	J1-7	N/A	DVI cable to LCD monitor (in backbox)
CPU VGA Out	J1-8	N/A	or VGA cable to LCD monitor (in backbox)
CPU LAN port	J1-9	N/A	Not Used
CPU USB 2.0 Port	J1-10	N/A	Not Used
CPU USB 2.0 Port	J1-11	N/A	Not Used
CPU Audio Line-In	J1-12	N/A	Not Used
CPU Audio Line-Out	J1-13	N/A	3.5mm audio cable to Sound Amplifier Board, J2
CPU MIC In	J1-14	N/A	Not Used

Inside PCB Chassis	Pin	Wire Color	Outside PCB Chassis
J2 Subwoofer Speaker			
Sound Amplifier Bd, J8	J2	YEL	RCA cable to cabinet subwoofer speaker
J3 Backbox Speaker Bar, Left			
Sound Amplifier Bd, J6	J3	WHT	RCA cable to Backbox Speaker Bar (left side RCA jack)
J4 Backbox Speaker Bar, Right			
Sound Amplifier Bd, J7	J4	RED	RCA cable to Backbox Speaker Bar (right side RCA jack)
J5 Jack in the Back Assy			
Sound Amplifier Bd, J3	J5	N/A	3.5 mm audio cable to Jack in the Back Assy (in back of cabinet)

Inside PCB Chassis	Pin	Wire Color	Outside PCB Chassis
J6 70-Volt Coil Drives (1-16)			
I/O Board, J105-1	J6-1	RED	+70VDC supply to coils below
	J6-2	Not Used	
	J6-3	Not Used	
I/O Board, J105-4	J6-4	RED-GRN	Coil drive 14 [Upper Right Flipper Hold]
I/O Board, J105-5	J6-5	RED-YEL	Coil drive 13 [Upper Right Flipper Power]
I/O Board, J105-6	J6-6	RED-ORN	Coil drive 12 [Right Flipper Hold]
I/O Board, J105-7	J6-7	RED-GRY	Coil drive 11 [Right Flipper Power]
I/O Board, J105-8	J6-8	RED-BRN	Coil drive 10 [Left Flipper Hold]
	J6-9	Not Used	
I/O Board, J105-10	J6-10	RED-BLK	Coil drive 9 [Left Flipper Power]
I/O Board, J104-1	J6-11	BRN	+70V supply to coils below
	J6-12	Not Used	
	J6-13	Not Used	
I/O Board, J104-4	J6-14	BRN-GRN	Coil drive 6 [Crystal Ball VUK]
I/O Board, J104-5	J6-15	BRN-YEL	Coil drive 5 [Winkie Guard VUK]
I/O Board, J104-6	J6-16	BRN-ORN	Coil drive 4 [State Fair Balloon Bumper]
I/O Board, J104-7	J6-17	BRN-RED	Coil drive 3 [Center Tree Bumper]
I/O Board, J104-8	J6-18	BRN-GRY	Coil drive 2 [Right Tree Bumper]
I/O Board, J104-9	J6-19	BRN-BLK	Coil drive 1 [Left Tree Bumper]
	J6-20	Not Used	
J7 70-Volt Coil Drives (17-32)			
I/O Board, J106-1	J7-1	ORN	+70VDC supply to coils below
	J7-2	Not Used	
	J7-3	Not Used	
I/O Board, J106-4	J7-4	ORN-GRN	Coil drive 22 [5-Ball Trough VUK]
I/O Board, J106-5	J7-5	ORN-YEL	Coil drive 21 [Ball Auto-Launch]
I/O Board, J106-6	J7-6	ORN-GRY	Coil drive 20 [Drop Target Reset (Up)]
I/O Board, J106-7	J7-7	ORN-RED	Coil drive 19 [Throne Room VUK]
	J7-8	Not Used	
I/O Board, J106-9	J7-9	ORN-BRN	Coil drive 18 [Ramp Ball Lock]
I/O Board, J106-10	J7-10	ORN-BLK	Coil drive 17 [Ball Diverter]
I/O Board, J107-1	J7-11	TAN	+70VDC supply to magnets below
	J7-12	Not Used	
	J7-13	Not Used	
	J7-14	Not Used	
I/O Board, J107-5	J7-15	TAN-YEL	Coil drive 29 [Monkey Magnet]
I/O Board, J107-6	J7-16	TAN-ORN	Coil drive 28 [Right Orbit Magnet]
	J7-17	Not Used	
I/O Board, J107-8	J7-18	TAN-RED	Coil drive 27 [Top Lanes Magnet]

Inside PCB Chassis	Pin	Wire Color	Outside PCB Chassis
I/O Board, J107-9	J7-19	TAN-BRN	Coil drive 26 [Witch Bottom Magnet]
I/O Board, J107-10	J7-20	TAN-BLK	Coil drive 25 [Witch Top Magnet]
J8 70-Volt Coil Drives (33-40) & Switch Matrix Rows			
I/O Board, J108-1	J8-1	PNK	+70VDC supply to coils below
I/O Board, J108-2	J8-2	PNK-VIO	Coil drive 40 [Top Lanes Slingshot]
I/O Board, J108-3	J8-3	PNK-BLU	Coil drive 39 [Right Slingshot]
I/O Board, J108-4	J8-4	PNK-GRN	Coil drive 38 [Left Slingshot]
	J8-5	Not Used	
	J8-6	Not Used	
I/O Board, J108-7	J8-7	PNK-ORN	Coil drive 36 [Munchkinland Flipper Hold]
I/O Board, J108-8	J8-8	PNK-RED	Coil drive 35 [Munchkinland Flipper Power]
I/O Board, J108-9	J8-9	PNK-BRN	Coil drive 34 [Castle Flipper Hold]
I/O Board, J108-10	J8-10	PNK-BLK	Coil drive 33 [Castle Flipper Power]
I/O Board, J200-1	J8-11	WHT-BLK	Row 1 to playfield switches
I/O Board, J200-2	J8-12	WHT-BRN	Row 2 to playfield switches
I/O Board, J200-3	J8-13	WHT-RED	Row 3 to playfield switches
I/O Board, J200-4	J8-14	WHT-ORN	Row 4 to playfield switches
I/O Board, J200-5	J8-15	WHT-YEL	Row 5 to playfield switches
I/O Board, J200-6	J8-16	WHT-GRN	Row 6 to playfield switches
I/O Board, J200-7	J8-17	WHT-BLU	Row 7 to playfield switches
I/O Board, J200-8	J8-18	WHT-VIO	Row 8 to playfield switches
	J8-19	Not Used	
	J8-20	Not Used	
J9 Switch Matrix Columns			
I/O Board, J201-1	J9-1	GRN-BLK	Column 1 to playfield switches
I/O Board, J201-2	J9-2	GRN-BRN	Column 2 to playfield switches
I/O Board, J201-3	J9-3	GRN-RED	Column 3 to playfield switches
I/O Board, J201-4	J9-4	GRN-ORN	Column 4 to playfield switches
I/O Board, J201-5	J9-5	GRN-YEL	Column 5 to playfield switches
I/O Board, J201-6	J9-6	GRN-GRY	Column 6 to playfield switches
I/O Board, J201-7	J9-7	GRN-BLU	Column 7 to playfield switches
I/O Board, J201-9	J9-8	GRN-VIO	Column 8 to playfield switches
	J9-9	Not Used	
	J9-10	Not Used	
I/O Board, J202-1	J9-11	GRY-BLK	Column 9 to playfield switches
I/O Board, J202-2	J9-12	GRY-BRN	Column 10 to playfield switches
I/O Board, J202-3	J9-13	GRY-RED	Column 11 to playfield switches
I/O Board, J202-4	J9-14	GRY-ORN	Column 12 to playfield switches
I/O Board, J202-5	J9-15	GRY-YEL	Column 13 to playfield switches

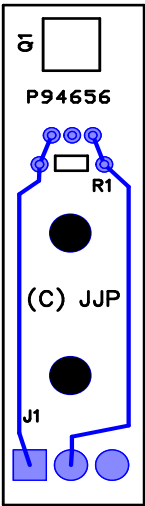
Inside PCB Chassis	Pin	Wire Color	Outside PCB Chassis
	J9-16	Not Used	
	J9-17	Not Used	
	J9-18	Not Used	
	J9-19	Not Used	
	J9-20	Not Used	
	J10 Not Used		
	J11 Ground		
I/O Board, J701-5	J11-1	GRN	Cabinet ground
I/O Board, J701-6	J11-2	GRN	Cabinet ground
	J12 RGB LED Power		
UPS Board, J4-4	J12-1	BLK	Ground to RGB LED string
UPS Board, J4-5	J12-2	BLK	Ground to RGB LED string
UPS Board, J4-6	J12-3	BLK	Ground to RGB LED string
	J12-4	Not Used	
	J12-5	Not Used	
	J12-6	Not Used	
UPS Board, J4-1	J12-7	VIO	+7.5VDC to RGB LED string
UPS Board, J4-2	J12-8	VIO	+7.5VDC to RGB LED string
UPS Board, J4-3	J12-9	VIO	+7.5VDC to RGB LED string
	J13 AC Power Input		
Bridge rectifier inside Cabinet PCB Chassis, AC leg	J13-1	BRN	30VAC from transformer (across BRN lines)
Bridge rectifier inside Cabinet PCB Chassis, AC leg	J13-2	BRN	30VAC from transformer (across BRN lines)
	J13-3	Not Used	
	J13-4	Not Used	
I/O Board, J702-3	J13-5	GRY	10VAC from transformer (across GRY lines)
I/O Board, J702-4	J13-6	GRY	10VAC from transformer (across GRY lines)
I/O Board, J702-1	J13-7	YEL	18VAC from transformer (across YEL lines)
I/O Board, J702-2	J13-8	YEL	18VAC from transformer (across YEL lines)
I/O Board, J701-2	J13-9	RED	49VAC from transformer (across RED lines) - through coin door interlock switch
I/O Board, J701-1	J13-10	RED	49VAC from transformer (across RED lines)

Inside PCB Chassis	Pin	Wire Color	Outside PCB Chassis
I/O Board, J701-4	J13-11	BLU	49VAC from transformer (across BLU lines) - through coin door interlock switch
I/O Board, J701-3	J13-12	BLU	49VAC from transformer (across BLU lines)
	J14 Left-side Opto I/O Board Power		
UPS Board, J9-1	J14-1	Not Used	
UPS Board, J9-2	J14-2	Not Used	
UPS Board, J9-3	J14-3	BLK	Ground to Left-side Opto I/O Board, PWR1-2 and 5-Ball Trough Transmitter Board, J100-2 and 5-Ball Trough Receiver Board, J100-2
UPS Board, J9-4	J14-4	RED	+5VDC to Left-side Opto I/O Board, PWR1-1 and 5-Ball Trough Transmitter Board, J100-1 and 5-Ball Trough Receiver Board, J100-1
	J15 Right-side Opto I/O Board Power		
UPS Board, J8-1	J15-1	Not Used	
UPS Board, J8-2	J15-2	Not Used	
UPS Board, J8-3	J15-3	BLK	Ground to Right-side Opto I/O Board, PWR1-2 and Magnet Sense Board, J1-1
UPS Board, J8-4	J15-4	RED	+5VDC to Right-side Opto I/O Board, PWR1-1 and Magnet Sense Board, J1-3
	J16 Coin Door Power		
UPS Board, J7-1	J16-1	YEL	+12VDC to coin door, backbox light & LCD monitor
UPS Board, J7-2	J16-2	BLK	Ground to coin door, backbox light & LCD monitor
UPS Board, J7-3	J16-3	Not Used	
UPS Board, J7-4	J16-4	Not Used	
	J17 Dedicated Switches (1-8)		
I/O Board, J601-1	J17-1	BLK	Dedicated switch common (Ground)
	J17-2	Not Used	
I/O Board, J601-4	J17-3	BLK-ORN	Dedicated switch return 4 [Castle Flipper EOS]
I/O Board, J601-5	J17-4	BLK-RED	Dedicated switch return 3 [Upper Right Flipper EOS]
I/O Board, J601-6	J17-5	BLK-BRN	Dedicated switch return 2 [Right Flipper EOS]
I/O Board, J603-1	J17-6	BLK	Dedicated switch common (Ground)
I/O Board, J601-7	J17-7	BLK-GRY	Dedicated switch return 1 [Left Flipper EOS]
	J17-8	Not Used	
I/O Board, J601-3	J17-9	BLK-GRN	Dedicated switch return 6 [Monkey Magnet Sense]
I/O Board, J601-2	J17-10	BLK-YEL	Dedicated switch return 5 [Munchkinland Flipper EOS]

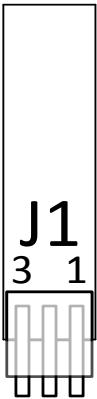
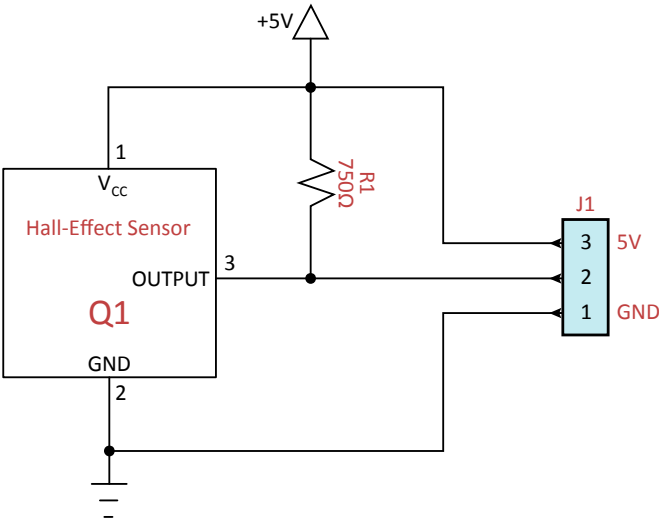
Inside PCB Chassis	Pin	Wire Color	Outside PCB Chassis	Inside PCB Chassis	Pin	Wire Color	Outside PCB Chassis
J18 20-Volt Coil Drives (49-64)				I/O Board, J110-1	J18-1	PLM	+20VDC supply to coils below
	J18-2	Not Used			J18-3	Not Used	
	J18-4	Not Used			J18-5	Not Used	
	J18-6	Not Used			J18-7	PLM-ORN	Coil drive 52 [House Wall Drop]
I/O Board, J110-6	J18-8	PLM-RED	Coil drive 51 [Castle Double Doors Latch]	I/O Board, J110-5	J18-9	PLM-BRN	Coil drive 50 [Castle Doors VUK]
I/O Board, J110-3	J18-10	PLM-BLK	Coil drive 49 [Drop Target Retract (Down)]	I/O Board, J110-2	J18-11	BLU	+20VDC supply to motors below
I/O Board, J111-1	J18-12	Not Used			J18-13	Not Used	
	J18-14	Not Used			J18-15	Not Used	
	J18-16	Not Used			J18-17	Not Used	
I/O Board, J111-5	J18-18	BLU-RED	Coil drive 59 [Castle Double Doors Motor, Right]	I/O Board, J111-4	J18-19	BLU-BRN	Coil drive 58 [Castle Double Doors Motor, Left]
I/O Board, J111-2	J18-20	BLU-BLK	Coil drive 57 [Castle Single Door Motor]				
J19 12-Volt Coil Drives (41, 43-48, 73-80)				I/O Board, J109-1	J19-1	YEL	+12VDC supply to motors/relays below
I/O Board, J109-10	J19-2	YEL-VIO	Coil drive 48 [Witch Stepper Motor 4]	I/O Board, J109-9	J19-3	YEL-BLU	Coil drive 47 [Witch Stepper Motor 3]
I/O Board, J109-8	J19-4	YEL-GRN	Coil drive 46 [Witch Stepper Motor 2]	I/O Board, J109-7	J19-5	YEL-GRY	Coil drive 45 [Witch Stepper Motor 1]
I/O Board, J109-6	J19-6	YEL-ORN	Coil drive 44 [Monkey Motor Relay], Motor Relay Board, J1-2	I/O Board, J109-4	J19-7	YEL-RED	Coil drive 43 [Monkey Motor], Motor Relay Board, J1-3
	J19-8	Not Used			J19-9	Not Used	
I/O Board, J109-2	J19-10	YEL-BLK	Coil drive 41 [House Motor]	I/O Board, J113-2	J19-11	LT BLU	+12VDC supply to lights below
	J19-12	Not Used			J19-13	LT BLU-GRY	Coil drive 79 [Start Button Light]
I/O Board, J113-9	J19-14	LT BLU-GRN	Coil drive 78 [Witch LED, Left]	I/O Board, J113-8	J19-15	LT BLU-YEL	Coil drive 77 [Witch LED, Right]
I/O Board, J113-7							
J20 Dedicated Switches (9-27) & 12/20-Volt Coil Drives (42, 65)				I/O Board, J113-6	J19-16	LT BLU-ORN	Coil drive 76 [Spotlights (3 Total)]
	J19-17	Not Used			J19-18	Not Used	
I/O Board, J113-4	J19-19	LT BLU-BRN	Coil drive 74 [Topper Light]	I/O Board, J113-3	J19-20	LT BLU-BLK	Coil drive 73 [Oz Head Light]
I/O Board, J109-3	J20-1	YEL-BRN	Coil drive 42 [Shaker Motor]	I/O Board, J604-6	J20-2	VIO-BRN	Dedicated switch return 26 [Coin Door Open]
I/O Board, J602-1	J20-3	BLK	Dedicated switch common (Ground)	I/O Board, J602-10	J20-4	YEL-VIO	Dedicated switch return 16 [Escape/Service Credit Button]
I/O Board, J602-8	J20-5	YEL-BLU	Dedicated switch return 15 [Down/Volume- Button]	I/O Board, J602-3	J20-6	YEL-GRN	Dedicated switch return 14 [Up/Volume+ Button]
I/O Board, J602-2	J20-7	YEL-GRY	Dedicated switch return 13 [Enter/Menu Button]	I/O Board, J602-4	J20-8	YEL-ORN	Dedicated switch return 12 [Right Flipper Switch, Upper]
I/O Board, J602-5	J20-9	YEL-RED	Dedicated switch return 11 [Right Flipper Switch, Lower]	I/O Board, J602-6	J20-10	YEL-BRN	Dedicated switch return 10 [Left Flipper Switch, Upper]
I/O Board, J602-7	J20-11	YEL-BLK	Dedicated switch return 9 [Left Flipper Switch, Lower]	I/O Board, J112-3	J20-12	VIO-BLK	Coil drive 65 [Knocker]
I/O Board, J109-1 (wire loop from J19, P1)	J20-13	YEL	+12VDC supply to Shaker Motor	I/O Board, J604-8	J20-14	VIO-BLK	Dedicated switch return 25 [Start Button]
I/O Board, J604-1	J20-15	BLK	Dedicated switch common (Ground)	I/O Board, J604-5	J20-16	VIO-RED	Dedicated switch return 27 [Plumb Bob Tilt]
I/O Board, J603-3	J20-17	Not Used		I/O Board, J603-2	J20-18	BLU-GRN	Dedicated switch return 22 [6th Coin Slot Switch]
I/O Board, J603-4	J20-19	BLU-YEL	Dedicated switch return 21 [5th Coin Slot Switch]	I/O Board, J603-5	J20-20	BLU-ORN	Dedicated switch return 20 [4th Coin Slot Switch]
I/O Board, J603-6	J20-21	BLU-RED	Dedicated switch return 19 [Center Dollar Bill Acceptor]	I/O Board, J603-7	J20-22	BLU-BRN	Dedicated switch return 18 [Right Coin Switch]
I/O Board, J112-1	J20-23	BLU-BLK	Dedicated switch return 17 [Left Coin Switch]		J20-24	VIO	+20VDC supply to Knocker Coil

Magnet Sense Board
15-0016-00, Revision 1

Component(s)	Part Number	Description
Q1	18-5002-0T	Hall-Effect Sensor, OH090U, 4.5-24V, Unipolar Switch
R1	121-0750-252	Resistor, Leaded, 750Ω, 0.25W, 1%
J1	30-2006-00	Header, Male, 3-pin, Rt Angle, 2.54mm



Magnet Sense Board
15-0016-00, Revision 1



Magnet Sense Board
15-0016-00
Connector Pin-outs, Revision 1

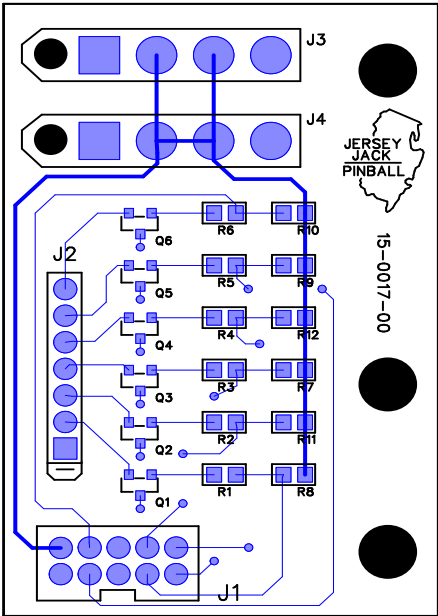
J1 Power/Magnet Sense		
J1-1	BLK	Ground from ATX Supply pr UPS Board, J8-2
J1-2	BLK-GRN	I/O Board, J601-3
J1-3	RED	+5VDC from ATX Supply or UPS Board, J8-4

Note: All Magnet Sense Board connections to J1 pass through an in-line connector mounted in back panel of Cabinet PCB Chassis Assembly.

European Coin Door Board

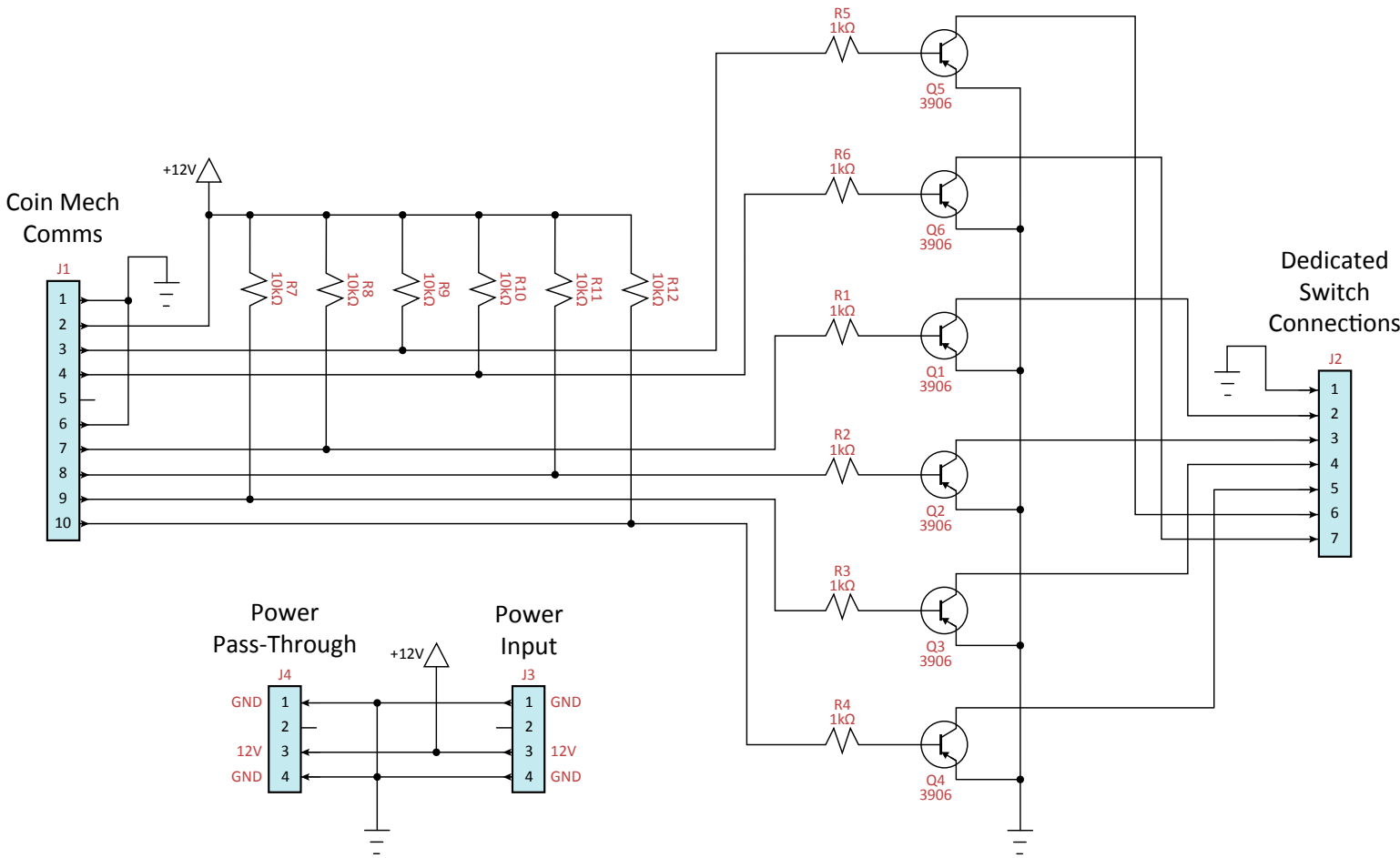
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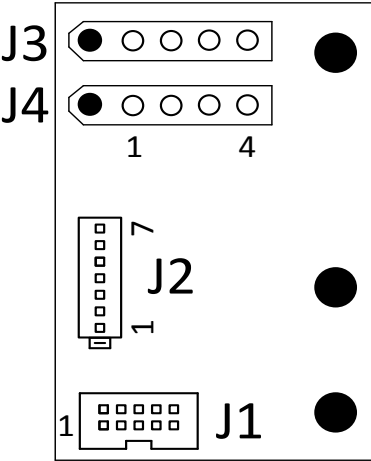
Component(s)	Part Number	Description
Q1-Q6	131-0001-0S	Transistor, 3906, SOT-23 SMT, PNP
R1-R6	120-1K00-124	Resistor, 0805 SMT, 1kΩ, 0.125W, 5%
R7-R12	120-10K0-124	Resistor, 0805 SMT, 10kΩ, 0.125W, 5%
J1	31-2513-10	Connector Header, Male, 10-pin, 2 Rows, 2.54mm
J2	31-2504-07	Header, Male, 7-pin, 2.54mm
J3, J4	31-2512-04	Connector Header, Male, 4-pin, 5.03mm



European Coin Door Board

15-0017-00, Revision 1





European Coin Door Board
15-0017-00
Connector Pin-outs, *Revision 1*

J1 Coin Mech Comms

10-pin Ribbon cable		
J1-1	->	
J1-2	->	
J1-3	->	
J1-4	->	Communications
J1-5	->	with coin
J1-6	->	mechanisms
J1-7	->	in coin door
J1-8	->	
J1-9	->	
J1-10	->	

J2 Dedicated Switch Connections

J2-1	BLK	Dedicated switch common (Ground), I/O Board, J603-1
J2-2	BLU-BLK	Dedicated switch return 17 [Left Coin Switch], I/O Board, J603-7
J2-3	BLU-BRN	Dedicated switch return 18 [Right Coin Switch], I/O Board, J603-6
J2-4	BLU-RED	Dedicated switch return 19 [Center Dollar Bill Acceptor], I/O Board, J603-5
J2-5	BLU-ORN	Dedicated switch return 20 [4th Coin Slot Switch], I/O Board, J603-4
J2-6	BLU-YEL	Dedicated switch return 21 [5th Coin Slot Switch], I/O Board, J603-2
J2-7	BLU-GRN	Dedicated switch return 22 [6th Coin Slot Switch], I/O Board, J603-3

J3 DC Power Input

J3-1	BLK	Ground from ATX Supply or UPS Board, J7-2
J3-2	Not Used	
J3-3	YEL	+12VDC from ATX Supply or UPS Board, J7-1
J3-4	BLK	Ground from ATX Supply or UPS Board, J7-2

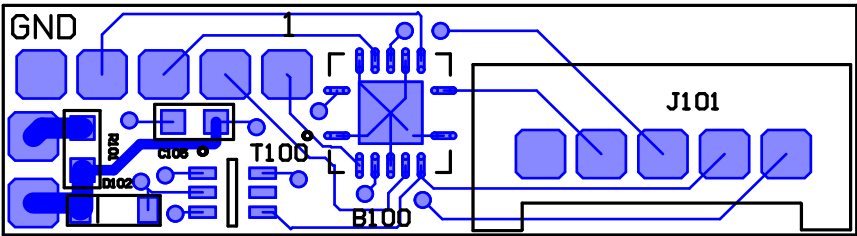
J4 Power Pass-Through

J4-1	BLK	Ground to coin door
J4-2	Not Used	
J4-3	YEL	+12VDC to coin door
J4-4	BLK	Ground to coin door

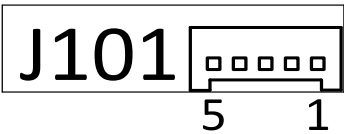
Note: All European Coin Door Board connections to J2-J4 pass through an in-line connector mounted in back panel of Cabinet PCB Chassis Assembly.

Output Buffer Board
15-0026-00, Revision 1

Component(s)	Part Number	Description
B100	141-0019-0S	Quad Bus Buffer Gates w/3-State Outputs, 74AHCT125, QFN-14 SMT
C105	103-104K-016	Capacitor, MLCC, 0603 SMT, 0.1µF, 16V, 10%
D102	110-0010-0S	Diode, MM3Z5V1T1, SMT, Zener, 5.1V, 200mW
R101	122-71P5-102	Resistor, 0603 SMT, 71.5Ω, 0.1W, 1%
T100	141-0017-0S	RailClamp TVS Diode Array, RClamp0504F, SC70-6L SMT
J0		Not Populated
J101	30-2001-00	Header, Male, 5-pin, 2mm



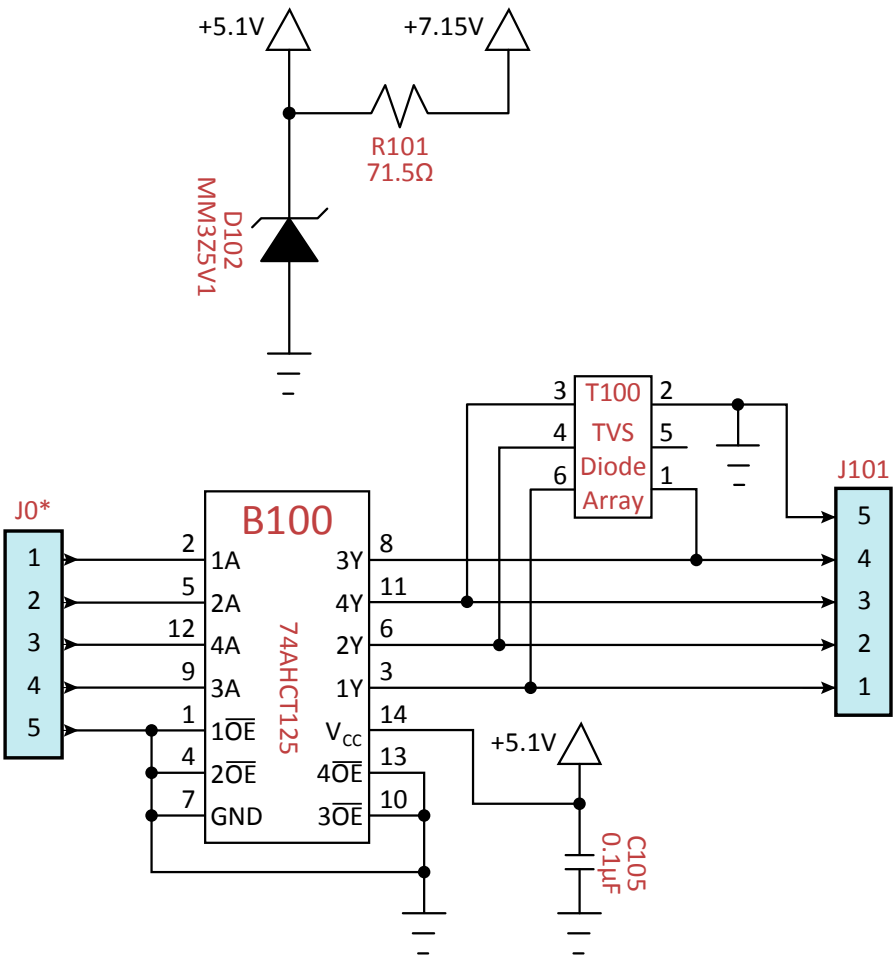
Output Buffer Board
15-0026-00
Connector Pin-outs, Revision 1



J101 RGB LED Control

J101-1	BLU	->
J101-2	WHT	-> Control signals to next RGB LED board
J101-3	BLU-WHT	->
J101-4	WHT-BLU	->
J101-5	BLK	Ground (cable shield)

Output Buffer Board
15-0026-00, Revision 1

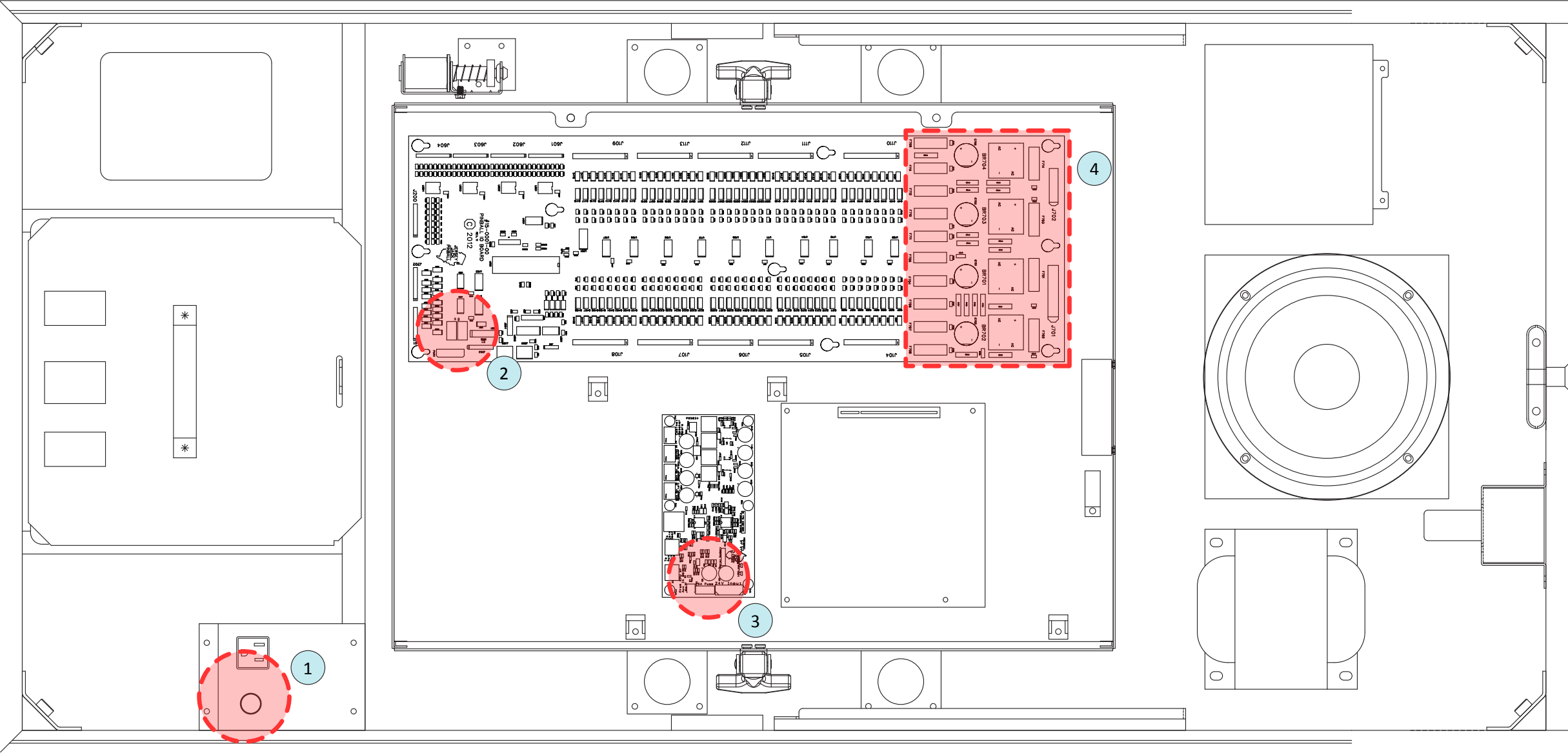


*Not populated

Note: The Output Buffer Board is designed to solder (at J0) to the J102 pins of a WOZ multi-RGB LED board (WOZ1-WOZ9). Its connector then becomes the new J102 for that board.

Fuse Locations

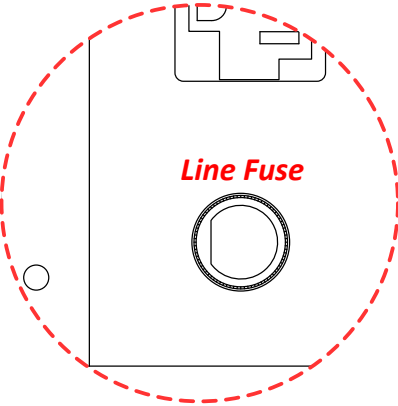
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Fuse Information

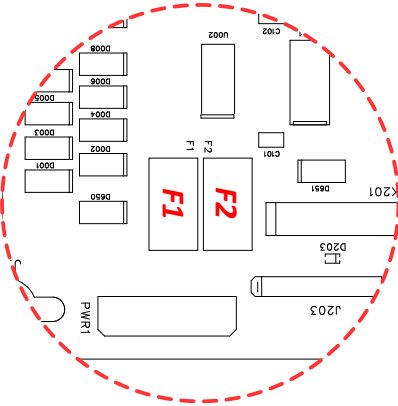
(games manufactured before Oct 1, 2013)

1 Power Box Assembly



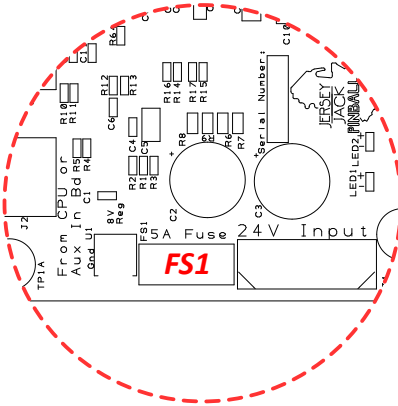
Fuse Identifier(s)
F701, F702
F703, F706, F707
F704, F705, F708
F710, F711, F712, F714
F709
F713
F1, F2
FS1
125V Line Fuse
250V Line Fuse

2 I/O Board



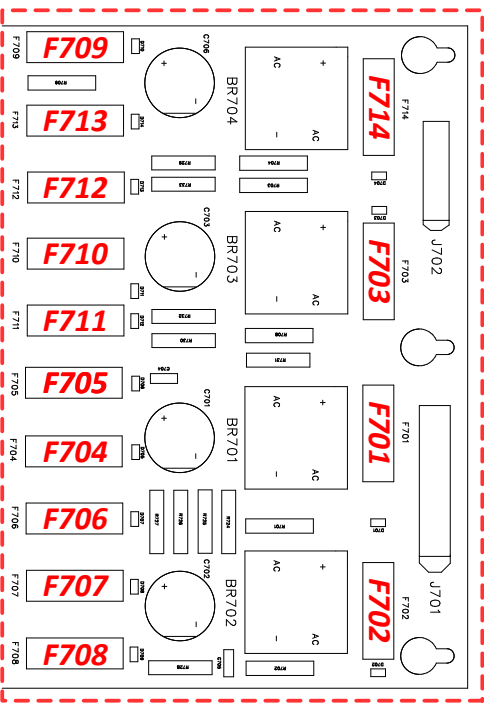
Description
Fuse, Time Delay, 10A, 250V, 5mm x 20mm
Fuse, Time Delay, 6.3A, 250V, 5mm x 20mm
Fuse, Time Delay, 5A, 250V, 5mm x 20mm
Fuse, Time Delay, 4A, 250V, 5mm x 20mm
Fuse, Time Delay, 3A, 250V, 5mm x 20mm
Fuse, Time Delay, 2A, 250V, 5mm x 20mm
Fuse, Slow Blow, 2A, 32V, Mini Blade
Fuse, Fast-Acting, 5A, 32V, Mini Blade
Fuse, Slow Blow, 10A, 125V, 0.25" x 1.25", 3AG
Fuse, Slow Blow, 5A, 250V, 0.25" x 1.25", 3AG

3 Sound Amplifier Board



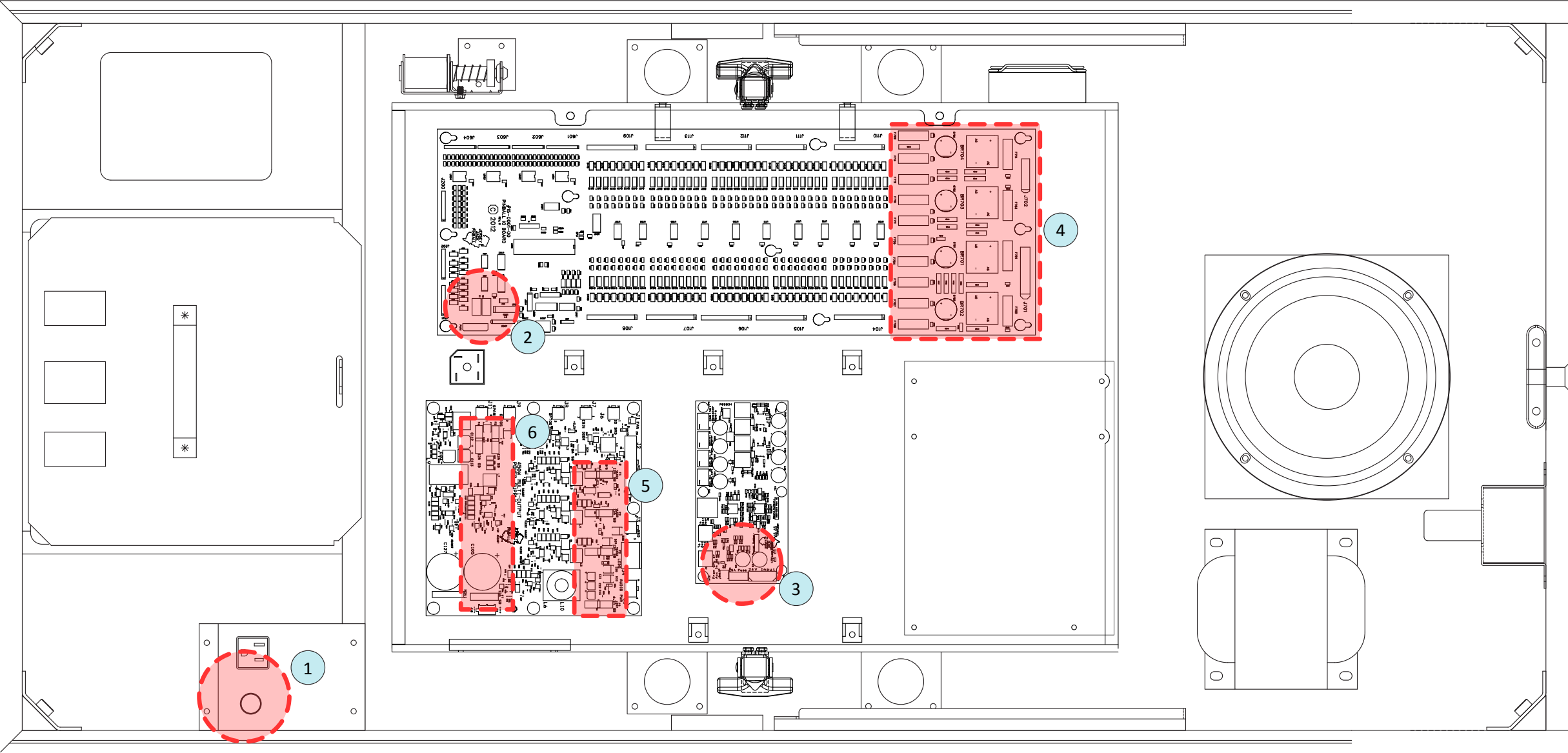
Part Number
170-0110-SM
170-0163-SM
170-0105-SM
170-0104-SM
170-0103-SM
170-0102-SM
170-3202-SB
170-3205-SB
170-0110-SR
170-0205-SR

4 I/O Board



Fuse Locations

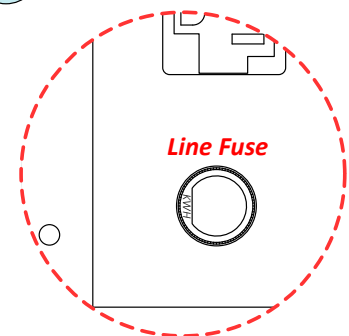
(games manufactured on/after Oct 1, 2013)



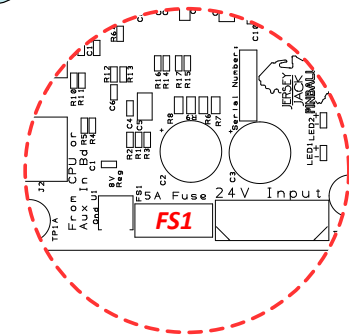
Fuse Information

(games manufactured on/after Oct 1, 2013)

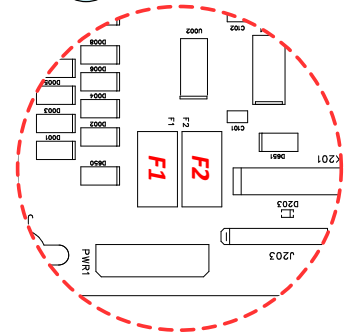
1 Power Box Assembly



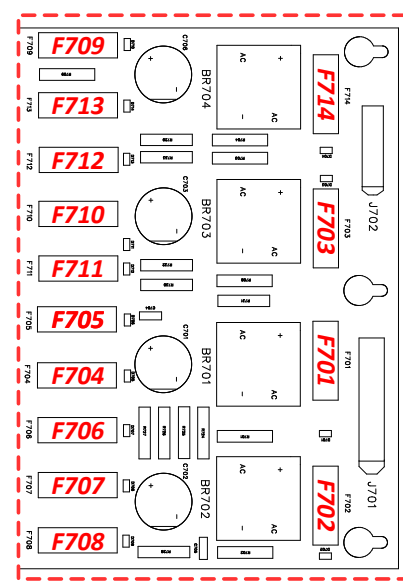
3 Sound Amplifier Board



2 I/O Board

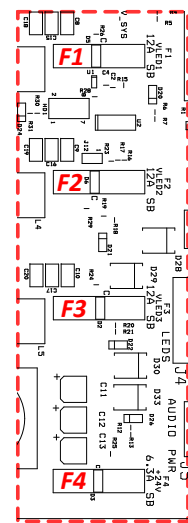


4 I/O Board

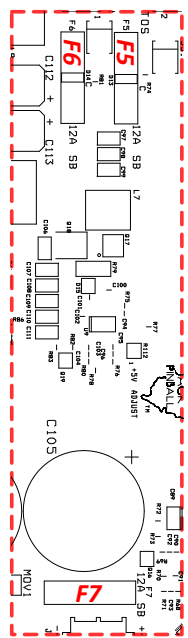


Unified Power Source Board

5



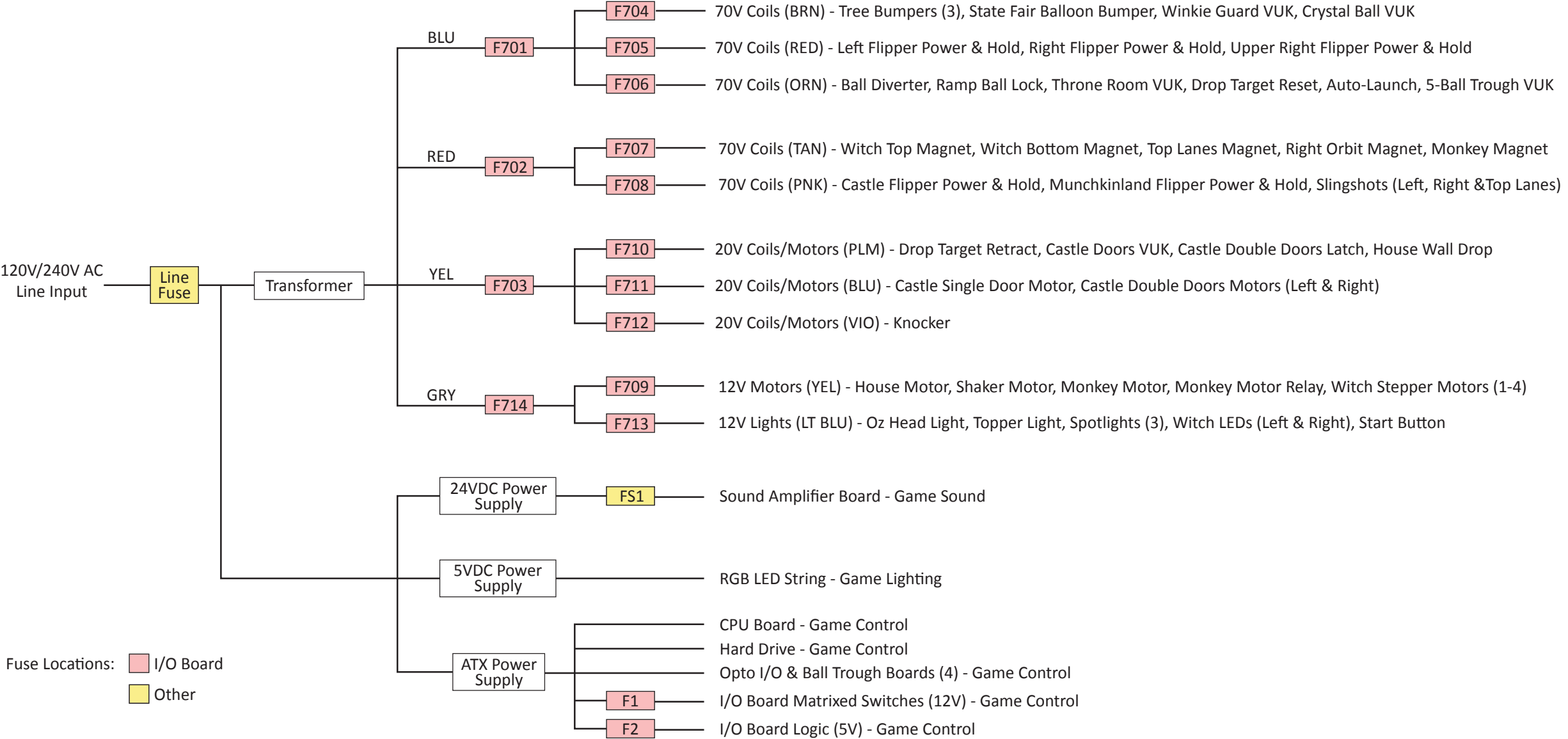
6



Fuse Identifier(s)	Description	Part Number	Fuse Identifier(s)	Description	Part Number
F701, F702	Fuse, Time Delay, 10A, 250V, 5mm x 20mm	170-0110-SM	F1, F2 (I/O Board)	Fuse, Slow Blow, 2A, 32V, Mini Blade	170-3202-SB
F703, F706, F707	Fuse, Time Delay, 6.3A, 250V, 5mm x 20mm	170-0163-SM	FS1	Fuse, Fast-Acting, 5A, 32V, Mini Blade	170-3205-SB
F704, F705, F708	Fuse, Time Delay, 5A, 250V, 5mm x 20mm	170-0105-SM	125V Line Fuse	Fuse, Slow Blow, 10A, 125V, 0.25" x 1.25", 3AG	170-0110-SR
F710, F711, F712, F714	Fuse, Time Delay, 4A, 250V, 5mm x 20mm	170-0104-SM	250V Line Fuse	Fuse, Slow Blow, 5A, 250V, 0.25" x 1.25", 3AG	170-0205-SR
F709	Fuse, Time Delay, 3A, 250V, 5mm x 20mm	170-0103-SM	F1-F3, F5-F7	Fuse, Time Delay, 12A, 250V, 5mm x 20mm	170-0212-SM
F713	Fuse, Time Delay, 2A, 250V, 5mm x 20mm	170-0102-SM	F4	Fuse, Time Delay, 6.3A, 250V, 5mm x 20mm	170-0263-SM

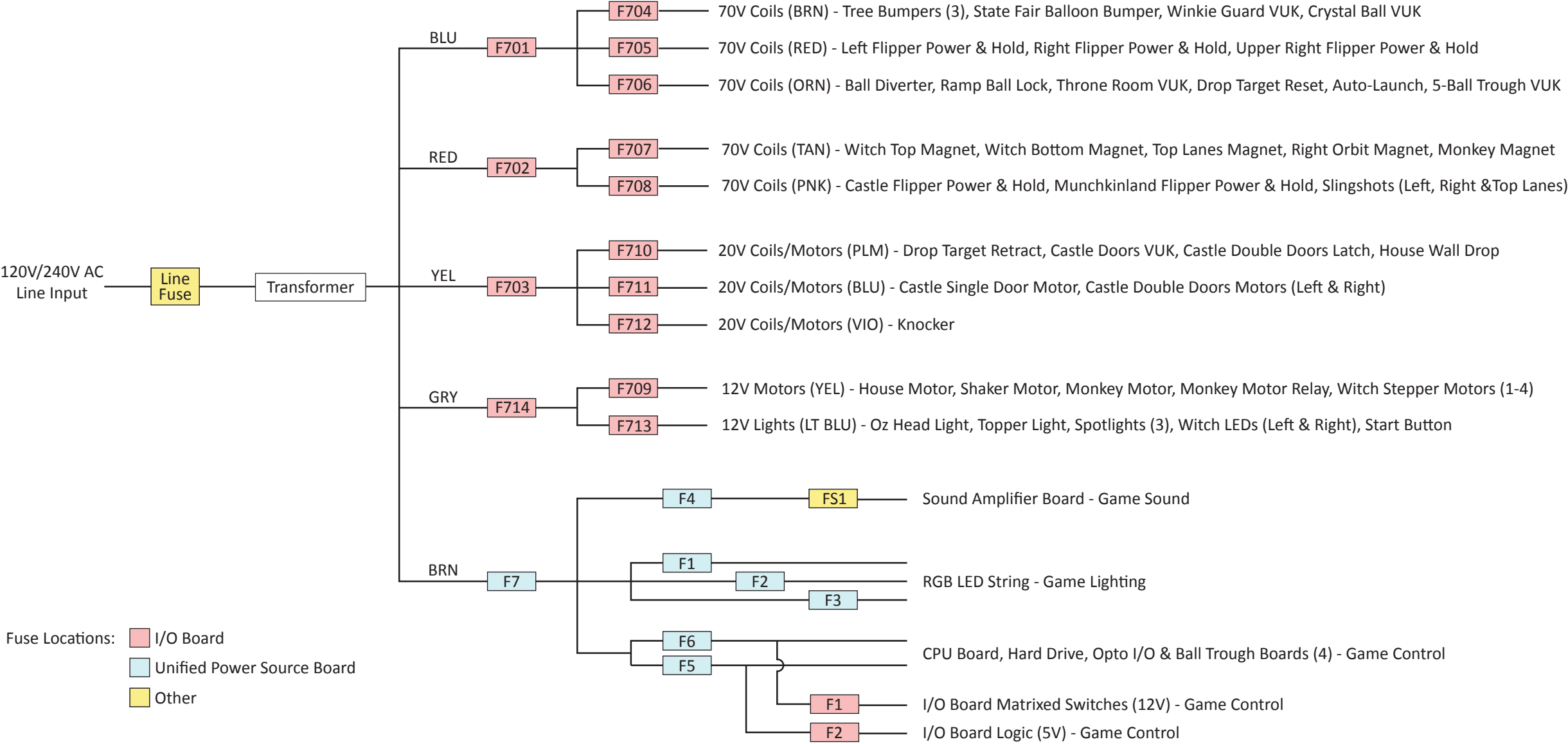
Fused Power Stream

(games manufactured before Oct 1, 2013)

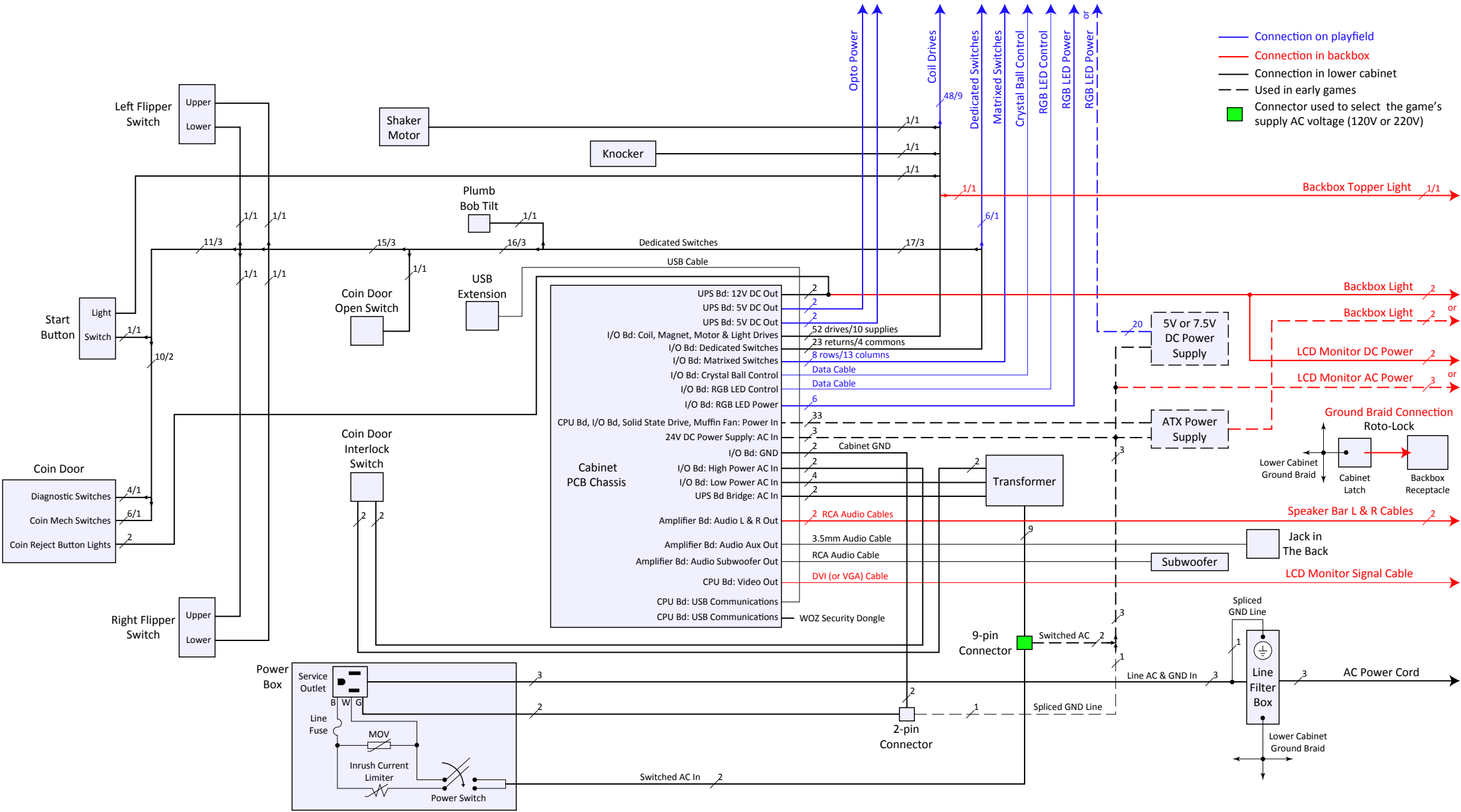


Fused Power Stream

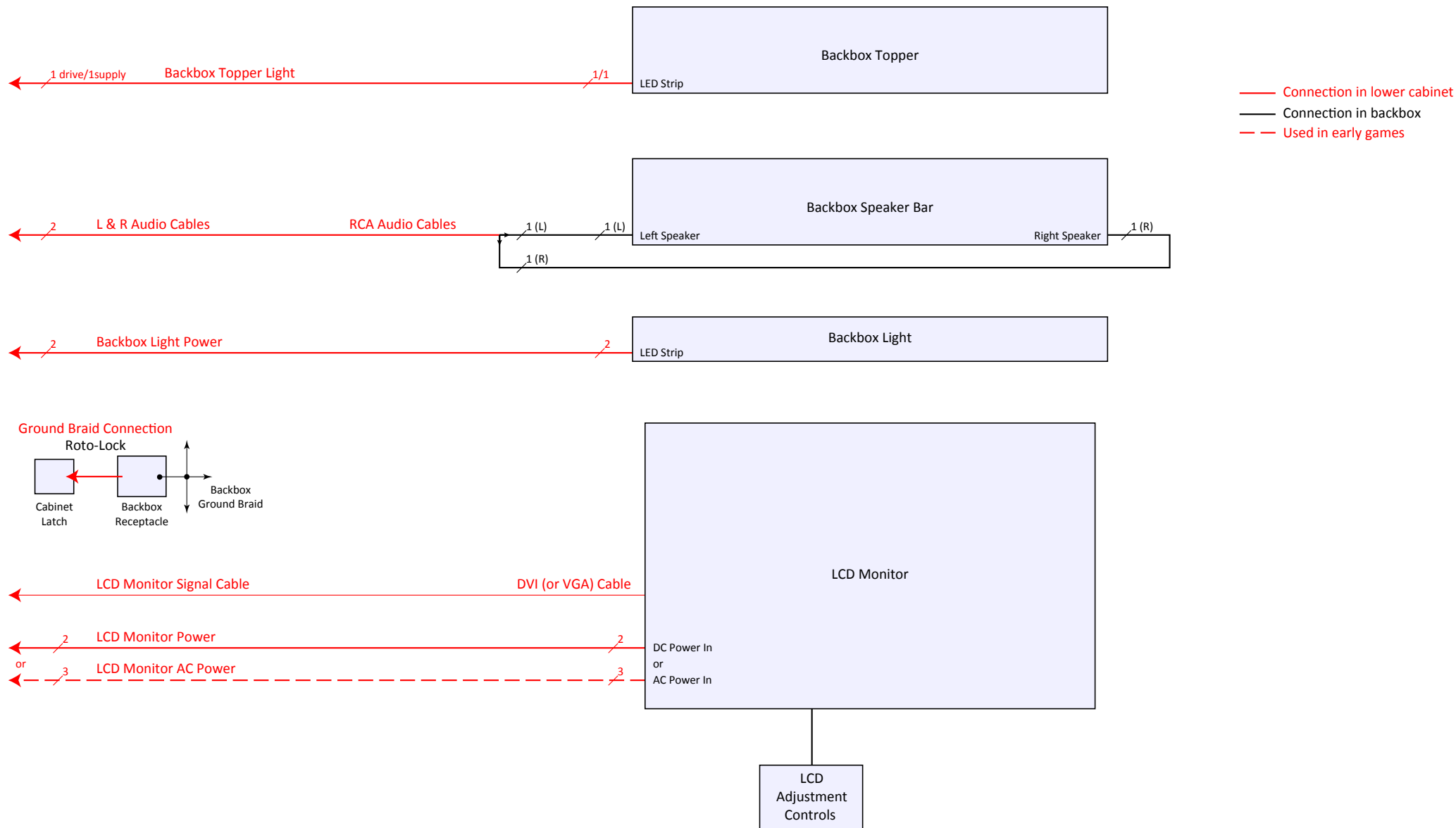
(games manufactured on/after Oct 1, 2013)



Lower Cabinet Wiring Diagram

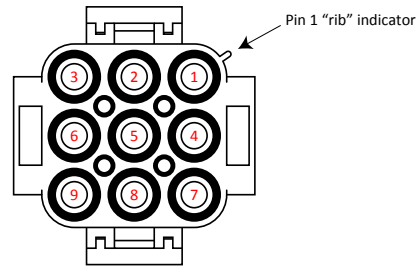


Backbox Wiring Diagram

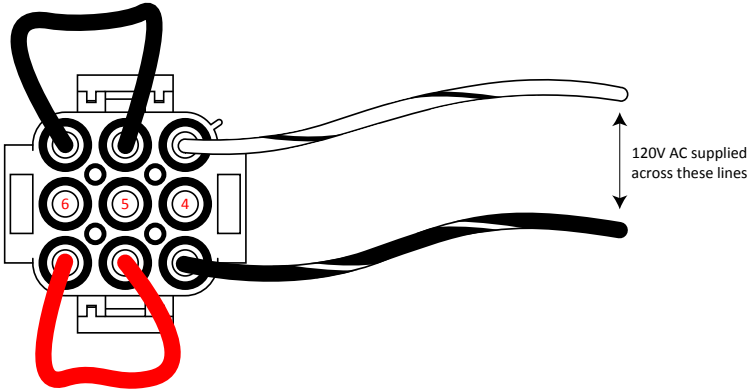


Supply Voltage Conversion

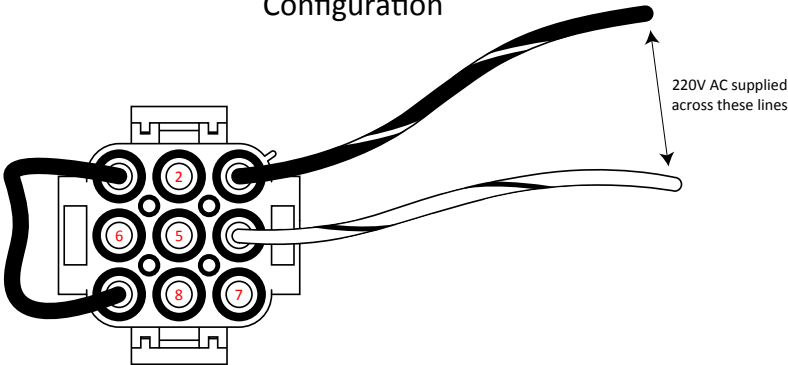
Voltage Conversion
Connector Pin-out



WOZ 120V AC
Configuration



WOZ 220V AC
Configuration



If you need to convert your game to a different supply voltage than it was wired for at the factory, locate the 9-pin connector at the input of the transformer, in the bottom of the lower cabinet (shown opposite and in the green box on page D-172).

Power the game down and disconnect the 9-pin connector (it has locking tabs on each side). Looking at the back of the jumpered connector (the end with the wires protruding), locate the pin 1 “rib” indicator and orient the connector so that it is in the upper right hand corner, as shown opposite. The red numbers show pin numbers for the entire connector.

Look at the illustration for the desired configuration and compare it to the current configuration. Using a 0.084” pin extractor, remove all pins that require repositioning by pushing them out of the back of the connector, from the front. You can reuse existing wires as long as they were not damaged during the removal process. Fashion new, short jumper wires, as needed.

Using the appropriate illustration for reference, insert the jumper pins all the way into the connector, in the proper positions, from the back side, until they lock in place.

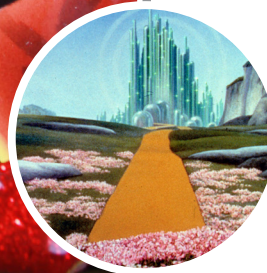
For a 120V supply voltage, connect the AC inputs across pins 1 & 7. Next, jumper pins 2 & 3 together with a short piece of black wire. Lastly, jumper pins 8 & 9 together with a short piece of orange wire.

For a 220V supply voltage, connect the AC inputs across pins 1 & 4. Then jumper pins 3 & 9 together with a short piece of black wire.

Note: If your game was manufactured prior to Oct 1, 2013, it may make use of switching, modular power supplies for the RGB LED system (5V or 7.5V), the sound amplifier board (24V), the CPU board (5V & 12V ATX supply) and/or other game functions. These switching power supplies have voltage selection slide switches on their back panels that must be in the proper position (120V or 220V) before applying power to the game.

Section E

Game Service & Troubleshooting



E.1 Removing the Castle Playfield

Preparations: Ensure that all 5 pinballs are in the trough or completely removed from the game (not held in any of the playfield ball locks). Go into the Winged Monkey Device Test and move the winged monkey downward, away from the castle mini playfield. Power down the game. If power cannot be applied to the game, manually turn the shaft on the winged monkey motor (in a CCW direction) until the monkey is approximately 3 inches away from the edge of the castle playfield.

Tools Required:

Wire cutters
Magnetic pickup tool (optional)
1/4" nutdriver or #2 Phillips screwdriver
11/32" nutdriver
11/32" open-end wrench

1) Raise the playfield and lean it against the backbox as shown in figure E1; locate the two holes circled in the illustration. Unplug the inline connectors for the mechanisms on or under the castle playfield, 6 connectors through the larger hole, 2 through the smaller hole:

Larger Hole

12-pin, WHT/GRY/BLU wires
9-pin, BLU/VIO wires
4-pin, RED/BLK/GRN/WHT wires
3-pin, VIO wires
2-pin BLU/BLK wires
2-pin, VIO/BLK wires

Smaller Hole

3-pin, PNK wires
2-pin, BLK wires

Use wire cutters to carefully cut any nylon ties holding cables/wires still attached to the castle playfield.

2) Unplug the data cable from the red connector on single RGB LED board number 12 (circled in figure E1); this cable will remain connected to the castle playfield as it is removed (pulled through the larger playfield hole). Cut any wire ties holding this cable underneath the playfield. Push all unplugged connectors and cables up through the holes in the main playfield.

Lower the main playfield, resting the back set of support rail rubber feet in the lockdown bar channel.

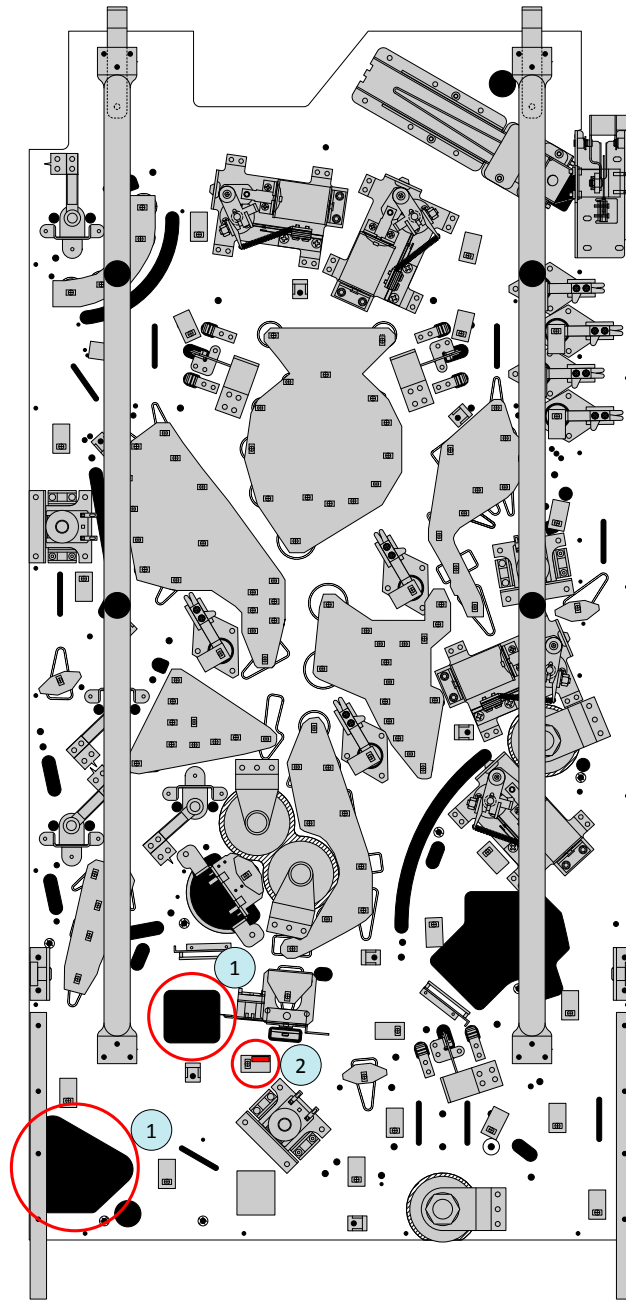


Figure E1. Castle playfield removal, illustration 1.

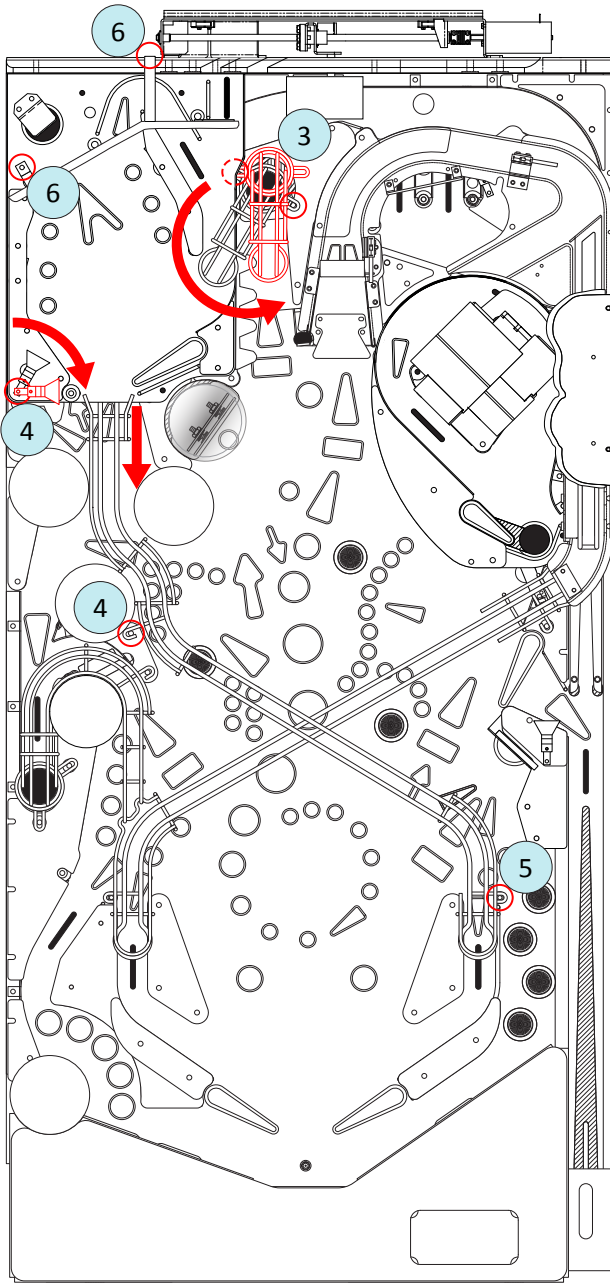


Figure E2. Castle playfield removal, illustration 2.

3) Using an 11/32" nutdriver, loosen the left-side locknut on the winkie guard VUK wire guide until it is near the top of its threaded post (see figure E2). Completely remove the right-side locknut and the flat washer underneath it (a magnetic pickup tool can be used to avoid dropping the loose pieces as they are removed).

Tilt the wire guide to the left until the right-side attachment point clears the top of its threaded post, then rotate it CCW until it clears the side of the castle playfield (as shown in the illustration, left).

4) With the same nutdriver, remove the locknut and flat washer holding the castle exit wire ramp, near the crystal ball (circled in figure E2). Loosen the locknut holding the spotlight in the lower left hand corner of the castle playfield. Twist the spotlight CW to gain access to one of the screws holding the playfield in place.

5) Using an 11/32" open-end wrench, remove the locknut and flat washer holding the end of the castle exit wire ramp next to the right outlane (circled in figure E2). Once loosened with the wrench, a nut-driver may be used to completely remove the locknut (by gently flexing the wire ramp).

Lift the castle exit wire ramp up over its attachment posts and carefully slide it straight out the end of the castle playfield. Carefully lay the ramp onto the main playfield; do not put excessive tension on the wires running to the ramp opto switch.

6) Using a 1/4" nutdriver or #2 Phillips screwdriver, remove the 2 screws holding the upper castle wall brackets in place (one of the screws is on the outside of the back panel). Remove the upper castle wall assembly and set it safely aside.

7) Using a 1/4" nutdriver or #2 Phillips screwdriver, remove the 4 screws holding the castle playfield down (see figure E3).

Carefully - and slowly - lift the castle playfield straight up, away from the main playfield, ensuring that all cables, connectors and wiring remain free during the process.

8) While lifting the castle playfield, reach under its front left corner and unplug the cable from the red connector on single RGB LED board number 30 (circled in figure E4). This cable will remain connected to the main playfield.

To reinstall the castle playfield, repeat the steps above, in reverse order.

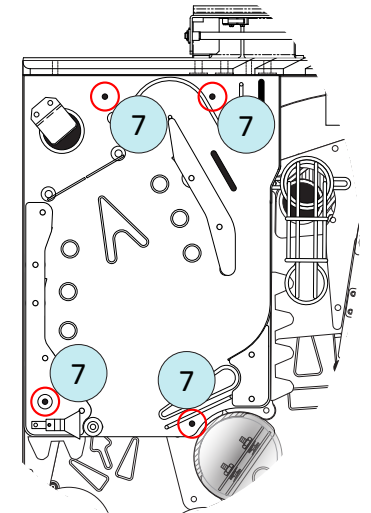


Figure E3. Castle playfield removal, illustration 3.

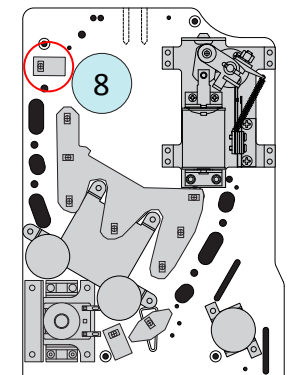


Figure E4. Castle playfield removal, illustration 4.

E.2 Removing the Munchkinland Playfield

Preparations: Ensure that all 5 pinballs are in the trough or completely removed from the game (not held in any of the playfield ball locks). Power down the game.

Tools Required:

Wire cutters
Magnetic pickup tool (optional)
1/4" nutdriver or #2 Phillips screwdriver
11/32" nutdriver

1) Raise the playfield and lean it against the backbox as shown in figure E5; locate the two holes circled in the illustration. Unplug the inline connectors for the mechanisms on or under the Munchkinland playfield, 2 connectors through the larger hole, 1 through the smaller hole:

Larger Hole
4-pin, VIO/YEL/BLK/RED wires
4-pin, GRY/WHT wires

Smaller Hole
2-pin, BLK/VIO wires

2) Unplug the orange (J4) and yellow (J5) color-coded connectors from the right-side opto I/O board, circled in the illustration. Use wire cutters to carefully cut any nylon ties holding cables/wires still attached to the Munchkinland playfield.

3) Unplug the data cable from the red connector on main RGB LED board WOZLED03 (circled in figure E5); this cable will remain connected to the Munchkinland playfield as it is removed (pulled through the smaller playfield hole). Cut any wire ties holding this cable underneath the playfield. Push all unplugged connectors and cables up through the holes in the main playfield.

Lower the main playfield, resting the back set of support rail rubber feet in the lockdown bar channel.

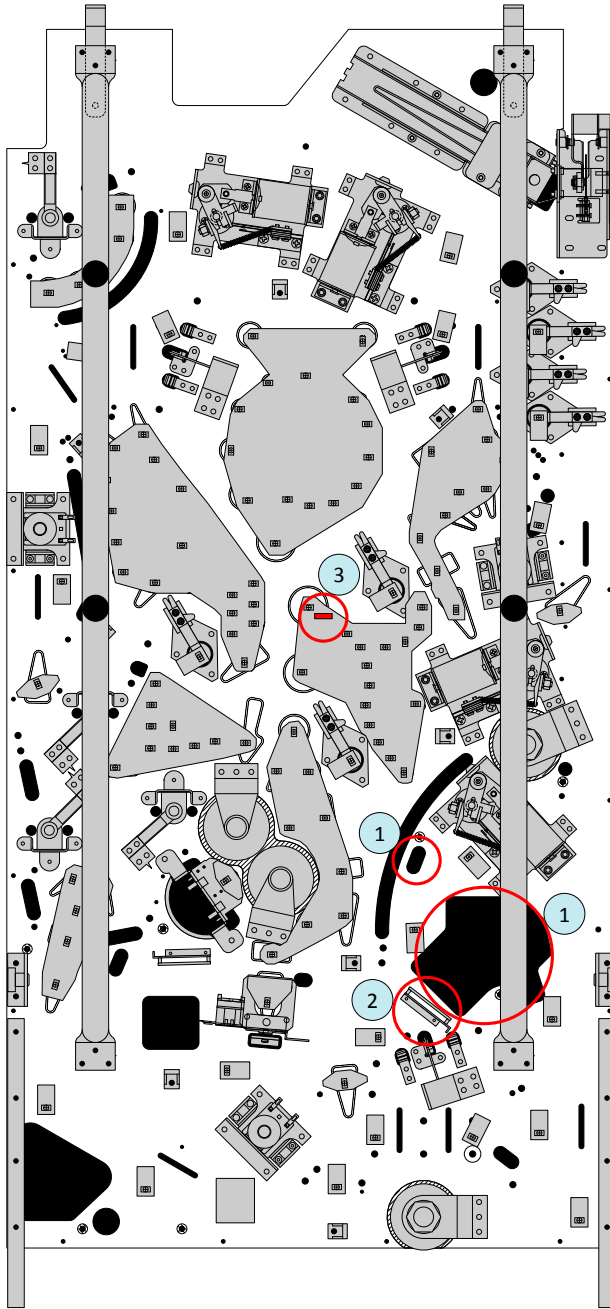


Figure E5. Munchkinland playfield removal, illustration 1.

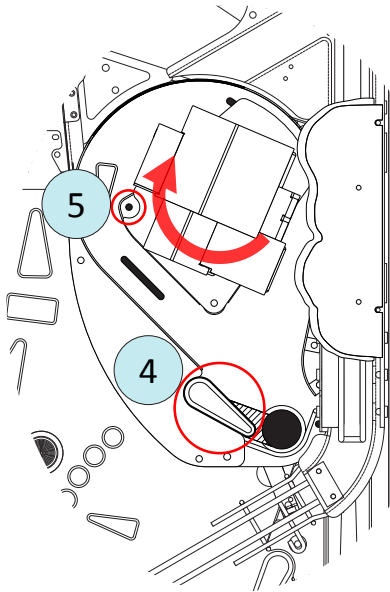


Figure E6. Munchkinland playfield removal, illustration 2.

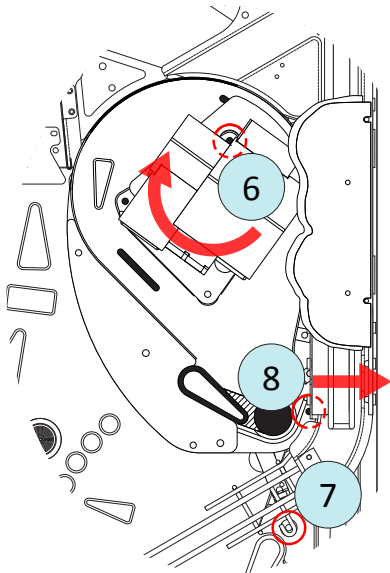


Figure E7. Munchkinland playfield removal, illustration 3.

4) Remove the mini rubber ring from the Munchkinland flipper (circled in figure E6).

5) Grasp the roof of the Munchkinland playfield's spinning house and manually rotate it (CW) until the large, open corner is aligned with the first of three screws holding the playfield down (as shown in figure E6). Using a 1/4" nutdriver or Phillips screwdriver with a long shaft, remove this screw. A magnetic pickup tool can be used to help pull the screw out of its hole.

6) Continue to manually rotate the house (CW) until the same open corner is aligned with the second of three screws holding the Munchkinland playfield down (as shown in figure E7). Using the same 1/4" nutdriver or Phillips screwdriver as in step 5 above, remove this screw. Again, a magnetic pickup tool can be used to help pull the screw out of its hole.

7) Using an 11/32" nutdriver, loosen the locknut holding the top end of the Emerald City exit wire ramp (circled in figure E7). Do not remove the locknut.

8) Flex the Emerald City plastic ramp (in the ball lock/Munchkin huts area) outward while removing the third of three screws holding the Munchkinland playfield down (circled in figure E7). Use the same 1/4" nutdriver or Phillips screwdriver as in steps 5 & 6 above.

Carefully - and slowly - tilt the Munchkinland playfield toward the ball lock assembly until it clears the Munchkinland mini flipper bat. When the flipper bat is completely through the hole in the Munchkinland playfield, flex the Emerald City plastic ramp outward again, until the outer edge of the Munchkinland playfield clears the metal opto shield on the edge of the ramp. Carefully lift the Munchkinland playfield up and away from the main playfield, ensuring that all cables, connectors and wiring remain free during the process.

9) While lifting the Munchkinland playfield, reach under its left front edge and unplug the cable from RGB LED satellite board number 160 (circled in figure E8). This cable will remain connected to the main playfield.

To reinstall the Munchkinland playfield, repeat the steps above, in reverse order.

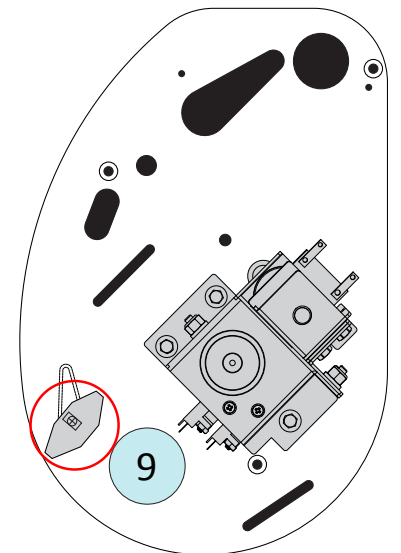


Figure E8. Munchkinland playfield removal, illustration 4.

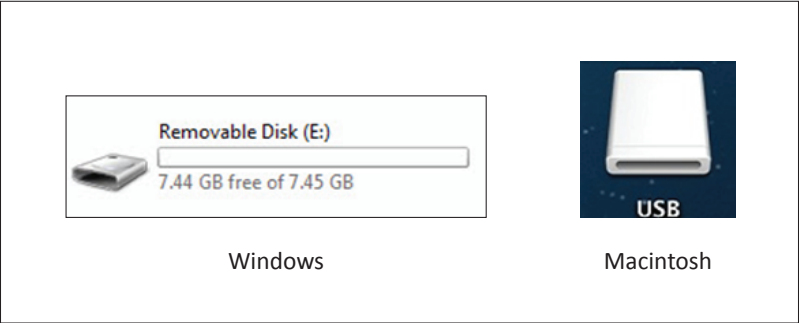


Figure E9. Icons for USB stick.

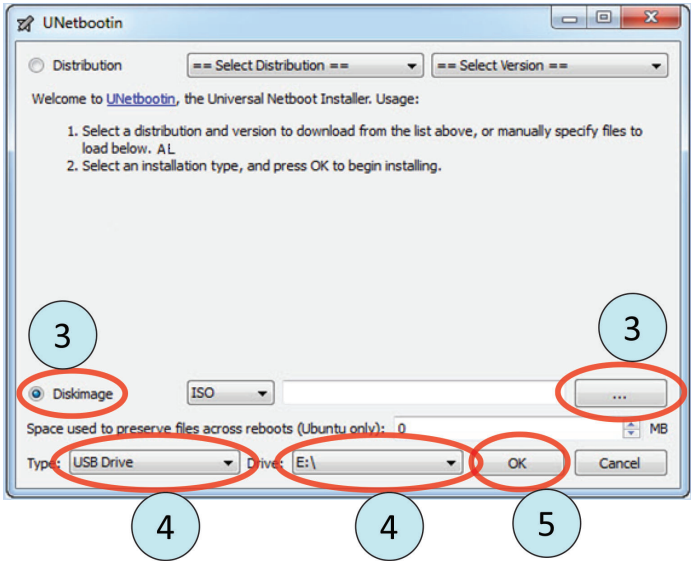


Figure E10. Initial UNETBOOTIN application window.

E.3 Performing a Full Software Update

Preparations: Visit <http://www.jerseyjackpinball.com/game-specific-downloads/wizard-of-oz-downloads/> and download the latest full WOZ software update. If you have not already done so, download the UNETBOOTIN utility at <http://support.jerseyjackpinball.com/downloads/utilities/unetbootin-win.exe> (Windows) or <http://support.jerseyjackpinball.com/downloads/utilities/unetbootin-mac.zip> (Macintosh).

Tools Required:

- Personal computer
- 8 GB USB Memory Stick
- 1 GB USB Memory Stick

The full software update is also referred to as a factory reinstallation of game software. At times, a full software update will be the only method for updating your game, as critical, underlying operating system changes are often required. For delta software update instructions, see **USB Update** in Section B.5 of this manual.

IMPORTANT NOTE: to preserve your high scores and customized system/game/coil information, back up your game settings (see **Settings Backup** in Section B.3) to a separate USB memory stick (1 GB minimum) before performing a full software update. When the update is complete, use this USB memory stick to restore your original settings to the game (see **Settings Restore** in Section B.3).

- 1) Insert an 8 GB USB memory stick into an empty USB slot in your personal computer. **WARNING: All data on the USB stick will be erased during this process!** You should see a new **Removable Disk** under **My Computer** (Windows) or a new **Drive** on your **Desktop** (Macintosh), as shown in figure E9.
- 2) Run the UNETBOOTIN application. The UNETBOOTIN window (shown in figure E10) will open.
- 3) Select the **Disk Image** option, then click the '...' button (both are circled in figure E10). Locate and select the Wizard of Oz ISO file you downloaded from the Jersey Jack Pinball® website.
- 4) Ensure that the **USB Drive** is selected under **Type** and the USB stick you inserted earlier ("E:\\" in this example) is selected under **Drive** (both are circled in figure E10).
- 5) Click the **OK** button to begin the copy/burn process, which will take approximately 10-20 minutes to complete (depending upon the speed of your computer). Again, all data on the USB stick will be erased during this process.

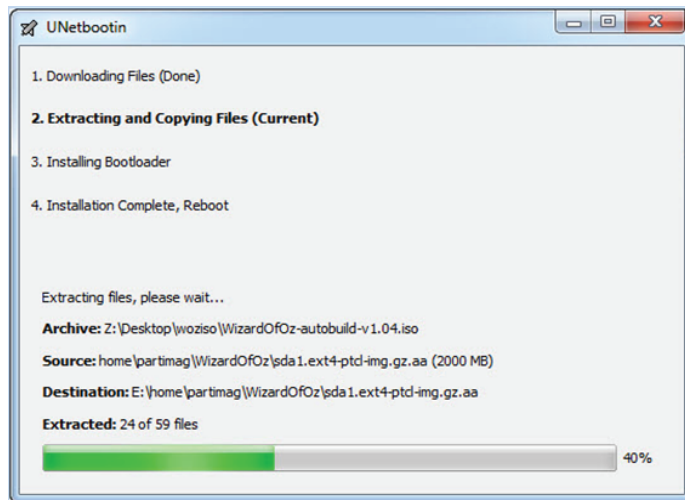


Figure E11. UNETBOOTIN copy/burn progress window.

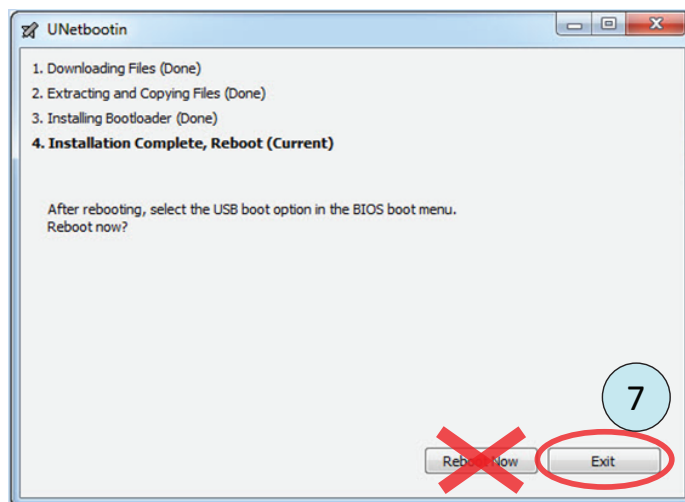


Figure E12. UNETBOOTIN installation complete window.

6) Throughout the ISO image copy/burn process, the window in figure E11 will be displayed and updated.

7) When the copy/burn process is complete, the window in figure E12 will be displayed. **WARNING: DO NOT CLICK THE 'Reboot Now' BUTTON!** Click the **Exit** button or the red X in the upper corner of the window.

8) Remove the USB stick from your personal computer. Power your game down and insert the USB stick you burned into the USB cable attached to the cabinet divider, behind the coin box, just inside your game's coin door.

9) Power up your game with the USB stick inserted. The game will auto-update with no user input; do not power the game down during the update process (which will take less than 5 minutes).

10) When the update is complete, the screen in figure E13 will be displayed on the game's LCD monitor. Power the game down, remove the update USB stick and power it on again. Your game will boot up running the new version of software (which can be verified by entering the WOZ menu system - see Section B). Store your 8 GB USB stick in a safe place; it can be used to perform another full software update in the future (to this same software version or a newer one).



Figure E13. Update installation complete!

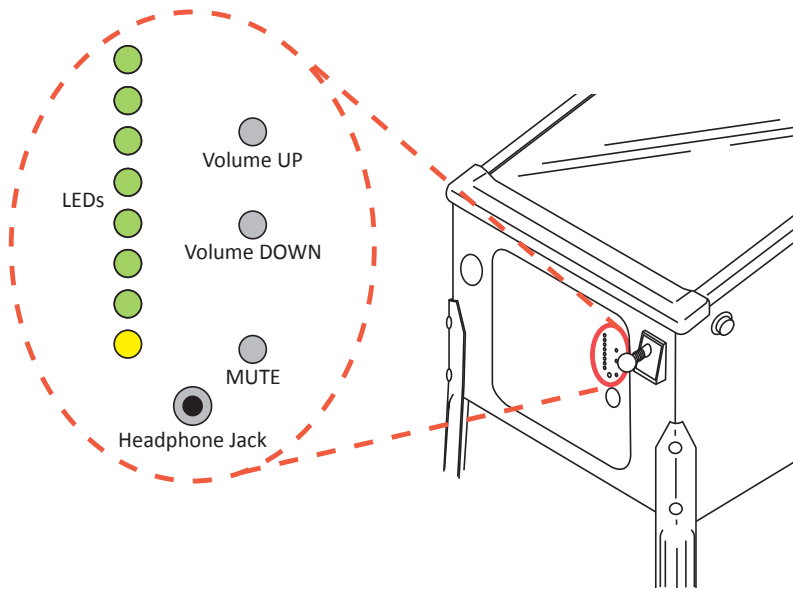


Figure E14. Coin door sound controls.

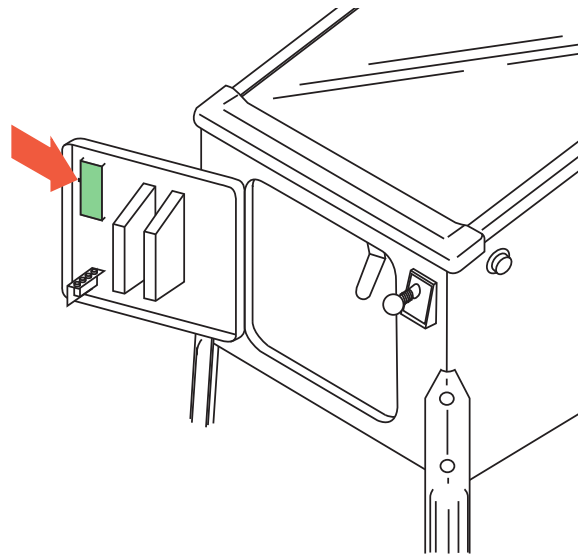


Figure E15. Sound mute disable switch location.

E.4 Coin Door Sound Controls

The WOZ sound system features a stereo headphone jack on the front of the coin door, along with volume and mute controls (circled in figure E14). To adjust the headphone levels, use the volume up and down buttons. The green LEDs, left of the buttons, will visually indicate sound levels. The overall maximum sound volume in the game is controlled by the red **Up/+** and **Down/-** menu buttons, inside the coin door (or the level selected in the System Settings menu).

Pressing the mute button will completely attenuate all audio signals coming from the game (from the speakers as well as the headphone jack). To prevent players on location from silencing the game, use the mute disable switch on the edge of the Volume Control Board, inside the coin door (see arrow in figure E15). When the slide switch is in the up position, the mute switch is disabled.

WARNING:

Jersey Jack Pinball® encourages you to use the provided headphone jack responsibly. Different ear buds or headphones may provide different sound levels. **ALWAYS** begin with a low output level when connecting headphones and gradually increase the volume to a comfortable level. Pay close attention to and set strict limits for how long you expose your ears to high volume levels through headphones. **DO NOT** turn up the headphone volume on your WOZ game in an attempt to block out noisy surroundings. Prolonged exposure to high volume levels can cause irreversible damage to your hearing! If you experience ringing in your ears or have difficulty understanding speech, stop listening and have your hearing tested immediately.

E.5 The WOZ RGB LED System Theory of Operation

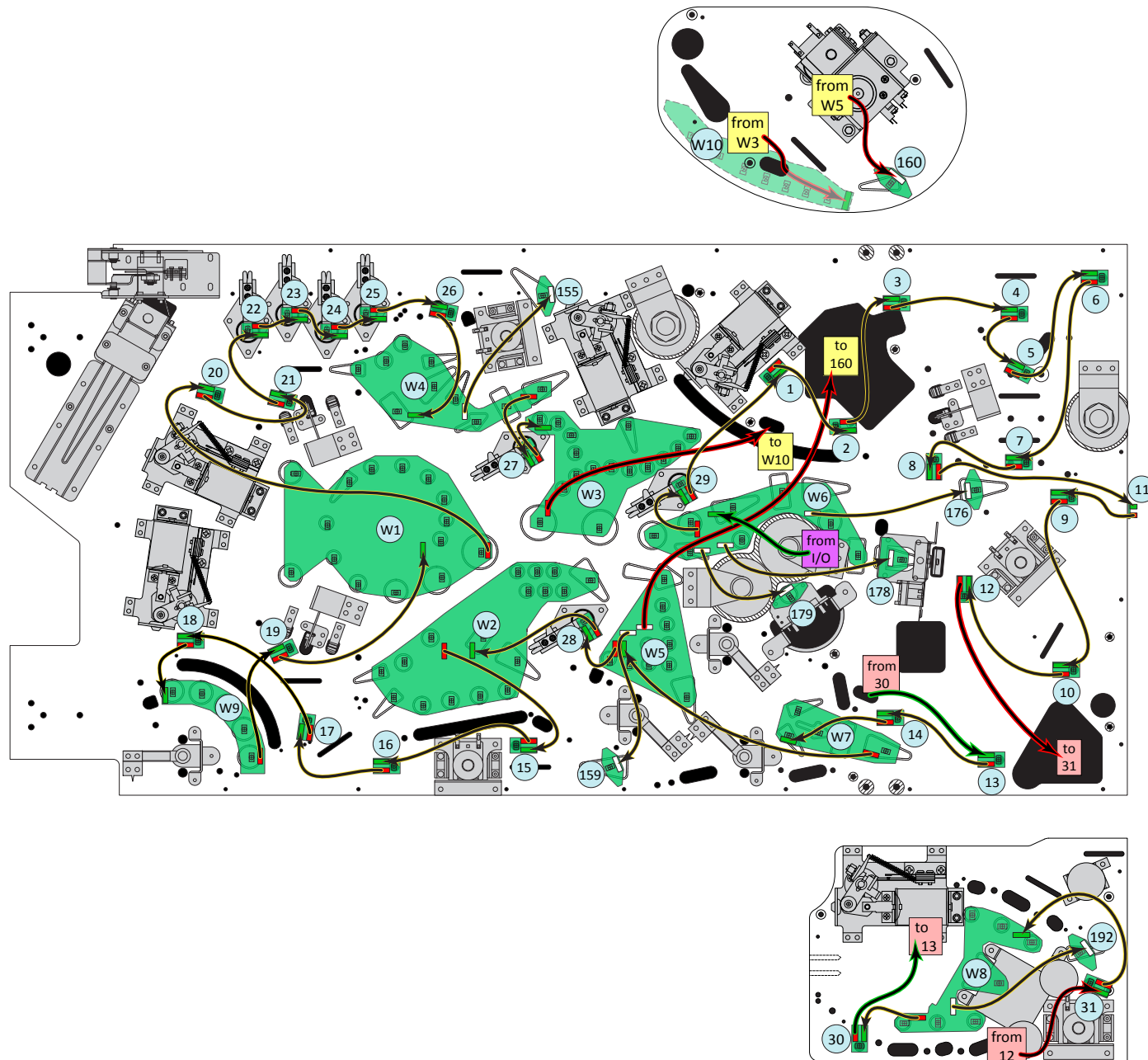


Figure E16. WOZ RGB LED data chain wiring.

The WOZ RGB LED system is often referred to as a “string”. That’s because, beginning at the I/O Board (down inside the PCB Chassis Assy), the LEDs used to light the playfield are arranged in one very long, continuous string. The string of LEDs begins with the Emerald Arrow insert for the Emerald City Ramp and winds its way around the top of the main playfield, onto the back panel (the Capture Dorothy insert), up onto the Castle playfield, back down around the bottom of the main playfield, then up to the Munchkinland playfield (see figure E16). The last RGB LED in the string is the “W” under the RAINBOW plastic. Some RGB LED boards have many LEDs on them (referred to as “multi-LED boards”, or “WOZ1 through WOZ10”, or “W1 through W10”); some have just one (referred to as “singles”). Unlike other pinball machines, WOZ general illumination (GI) is not separate from its feature lighting. GI RGB LEDs are integrated into the string, right alongside RGB LEDs used to light up inserts under the playfield. The string is made up of a total of 139 RGB LEDs.

For each and every RGB LED in the WOZ game, there is a 3-channel, constant current driver integrated circuit (IC) chip to control it, an Allegro A6281. Three channels, one for each LED color: **red, green, blue**. This driver chip requires power to operate properly; it also requires valid data. Essentially, the data for each channel consists of a “shade” and “intensity” for the associated color. For example, equal shades/intensities of red and blue (along with no shade/intensity of green) will result in a particular shade/intensity of violet. Equal shades and intensities of all three colors will create a certain intensity of cool white. If the LEDs are run at maximum intensity, they will produce very bright lighting effects - but both the driver and the LED itself will be working quite strenuously. In this case, the driver/LED combination will draw a lot of current and create a lot of heat (both undesirable). If the LEDs are run at a low intensity, they’ll produce very dim lighting effects, but the result will be much less taxing on the driver and LED. We try to run the LEDs somewhere just above the middle of their range in most situations.

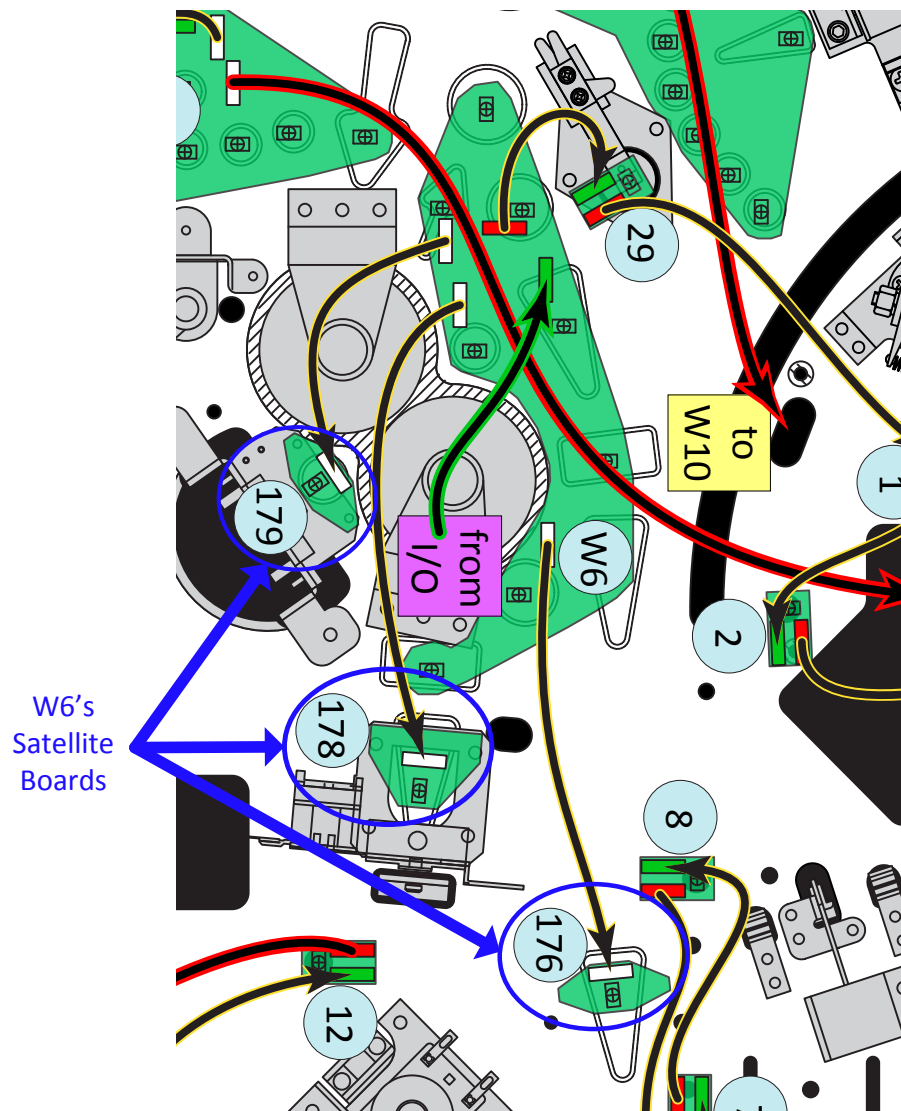


Figure E17. W6's satellite RGB LED boards.

Power for WOZ RGB LEDs is run in parallel. That is, a “trunk” of power cables originates from a single power source (in the bottom of the cabinet), branching out, ultimately, to all of the RGB LED boards in the game. Power is actually daisy-chained, from board-to-board, along each branch off of the trunk. Basically, “parallel” means that a change in power, at the source, is immediately evident at each and every RGB LED board in the string (theoretically). Power for each RGB LED board is supplied by two wires: black (ground) and violet (+5V or +7.5V) in color. The board connector headers where these wires plug in have two pins.

Data signals for WOZ RGB LEDs are run in series. The A6281 chips have four input data lines and four corresponding output data lines. The four data lines for the entire RGB LED string in WOZ are basically one continuous data “chain”, with each “link” in the chain being an A6281 chip. That is, the data to control the first RGB LED in the string comes directly from the I/O Board. The data for the second LED comes from the I/O Board too, but it has to be “passed along” by the first RGB LED’s A6281 chip. And so it goes, all the way to the driver chip for that RAINBOW “W”, whose data has to be passed along by **each and every one** of the 138 A6281 chips before it. If there is **any** broken or weak link in the chain, the RGB LEDs from that link on will do one of three things: 1) shut off completely (go dark), 2) display the results of corrupted data being passed to it (flashing or constantly-changing, incorrect colors/intensities), or 3) lock on, holding whatever the last valid data received told them to do (frozen, constant colors). That broken or weak link will may recover when you cycle power on the game. Sometimes, however, there is permanent damage to the driver, leaving the remainder of the string dead (and dark) until the damaged board is replaced.

Data can be corrupted (or interrupted) by something as simple as a loose/intermittent power or data connector. The power connector on each RGB LED board is labeled **J100**. A loose cable on this connector will disable all of the RGB LEDs on the board in question - **and** all of the remaining LEDs “downstream” from that board as well. Data connectors on each board are labeled **J101** (input) and **J102** (output). WOZ data cables are color-coordinated, using a heat shrink “stripe” near each end: green at the input of a board, red at the output. The board connector headers where these cables plug in have 5 pins. A loose cable on **J101** will have the same effect as a loose cable on **J100**: disabled RGB LEDs on the board in question and every other board downstream. A loose **J102** cable will only disable the RGB LEDs downstream from the board in question.

Some of the single RGB LEDs in the game are actually driven by one of the multi-LED boards (W4-W6, or W8). These “satellite” RGB LEDs are used in areas where mounting area is constrained (the loop arrows on the Munchkinland and Castle PFs, the insert in front of the Winkie drop target, etc.). W6’s three satellite boards are highlighted in Figure E17. One of these satellite RGB LEDs can be out without affecting the rest of the string, because the A6281 chip that drives it actually resides on the multi-LED board; the cable running to the satellite board (powering and controlling the RGB LED) could simply be loose, at either end. The locking mechanism on satellite board cables/headers is not as effective as those used for data chain cables. The board connector headers for satellite RGB LEDs have 5 pins; they are labeled **J155, J159, J160, J176, J179** or **J192** on the multi-LED “driver” boards and **J100** on the satellite board itself.

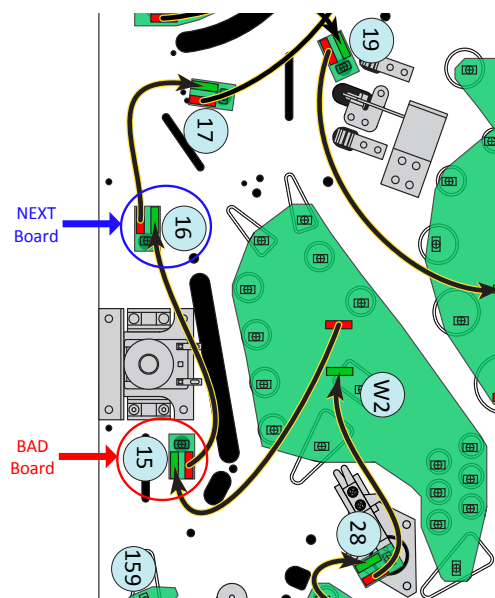


Figure E18. Single GI board #15, under playfield.

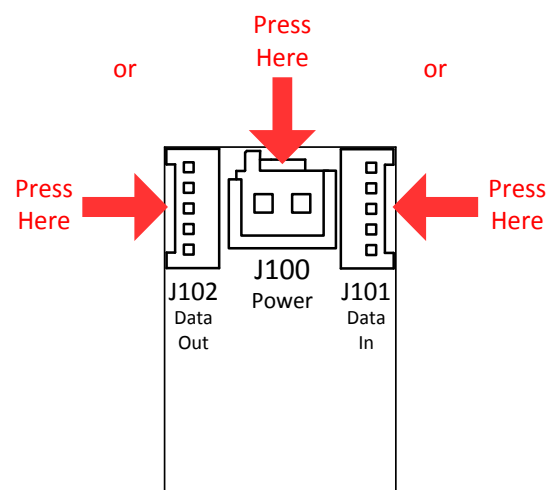


Figure E19. Single GI board #15, close-up.

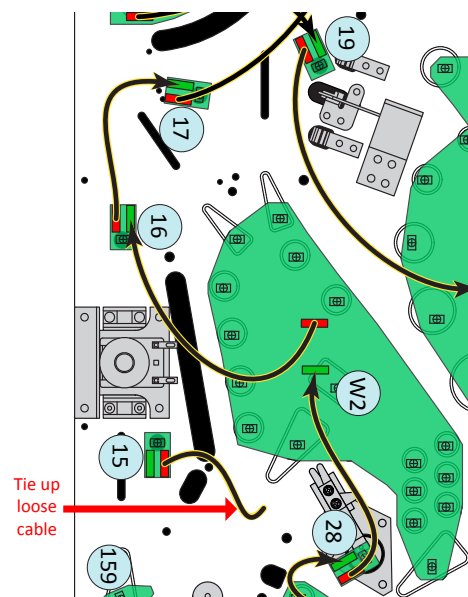


Figure E20. Single GI board #15, bypassed.

Troubleshooting

So what do you do when a portion of your WOZ RGB LED string is locked-on or otherwise nonfunctional? You either have a) a loose/intermittent cable connection or b) a malfunctioning board. Use the diagrams in figure E16 and/or the LED diagnostics tests to identify the last working board in the string, then power down the game and reseat all of the connectors (data and power) on that board **and** the next one (the first non-working board). Power the game back up and see if the symptoms/problems persist. If so, you may have a malfunctioning RGB LED board; if the symptoms are gone, a cable connection was likely the root cause of your problem.

If you discover an RGB LED board in your game that is malfunctioning and needs to be replaced, you can effectively “bypass” that board in the chain by reconfiguring a few data and power cables. For example, let’s say your #15 single GI board is out, causing all of the boards downstream to go dark as well (see figure E18). **WITH THE GAME’S POWER OFF**, disconnect the power (**J100**, two-pin, violet and black wires) and the input data (**J101**, five-pin, green end of black data cable) connectors from the #15 board; you can leave the output connector (**J102**, five-pin, red end of black data cable) in place. **CAUTION: DO NOT** pull on the connectors/cables/wires until you’ve depressed the tab and released the locking mechanism on the connector at the end of the data cable (see figure E19). Doing so could damage the cable and/or board!

From figure E18, note that the next board in the chain is single GI board #16. The next step is to disconnect the input data connector (**J101**, five-pin, green end of black data cable) on that board. Then connect the green end of the data cable that was connected to **J101** of the #15 board to **J101** of the #16 board. The malfunctioning #15 board is now physically bypassed in the RGB LED chain (the data cables should look like those in figure E20). Temporarily tuck or tie the loose #15 power connector and output data cable to the main wiring harness to keep them from getting pinched, caught or pulled when raising/lowering the playfield.

The final step is to reconfigure the game software to skip board #15 when it's addressing RGB LEDs during game play. Power the game back on, open the coin door and enter the WOZ Menu System. Go into the Settings menu, then into the Game Settings submenu. Scroll down to the bottom of the settings list (under the RGB LED (Light) Boards subheading), turn Board #15 "OFF" (see figure E21) then exit the menu system. The RGB LED string (except for board #15) should work as designed.

You may now continue to play your game while you wait for your replacement RGB LED board to arrive. Reverse the above steps to replace the #15 board, returning all of the data and power cables to their original positions. Again, only perform these actions with the game turned **OFF** – and don't forget to turn board #15 back "ON" in the Game Settings submenu as your final step.



Figure E21. Single GI board #15, disabled in software.

E.6 Replacing Your Game's CPU Battery

Your game's CPU board uses a 3V coin cell, lithium battery (CR2032) to maintain its basic input/output system (BIOS) settings when the game is powered down. If these settings are lost, the CPU will not boot when the game is powered up. The life expectancy of the CR2032 battery is approximately three years. It is important to change your game's CPU battery before it discharges below 3V. However, in order to preserve the CPU's BIOS settings, the change must be made while the game is powered on. A step-by-step process for replacing the battery is provided below.

- 1) Power the game on and remove the playfield glass (see pg A-7). Leave the coin door open.
- 2) Lift the playfield up out of the cabinet and lean it up against the backbox (position 4, pg A-9).
- 3) Remove the lid of the Cabinet PCB Chassis (see figure E22): ① Loosen the two captive thumb-screws on the lid of the Cabinet PCB Chassis. ② Lift the left edge, ③ slide the lid to the right and lift upward to remove it. **CAUTION:** Be very careful not to drop anything inside the PCB chassis!
- 4) Locate the CPU board (upper right corner of the PCB chassis), then the shiny, CR2032 coin cell battery & holder mounted on its surface (see figure E23 or E24). Note the orientation of the battery in its holder (with the battery label/imprint facing *outward*).
- 5) Cut a 3-inch long piece of masking tape and fold it 1 inch from the end. This should form a 1-inch long "handle" and leave a 1-inch long adhesive end.
- 6) Briefly touch the lockdown bar receiver on the game to dissipate any static charge in your body **before** touching the CPU board.
- 7) Carefully affix the adhesive portion of the tape onto the top of the CR2032 battery, applying moderate pressure. **WARNING:** Do *not* flex the CPU circuit board! Rub the surface of the tape, back and forth, to ensure that it attaches well to the battery - *not* the holder.

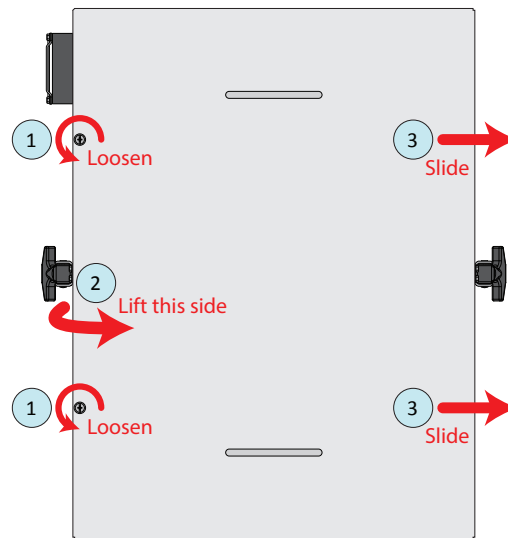


Figure E22. Removing PCB chassis lid.

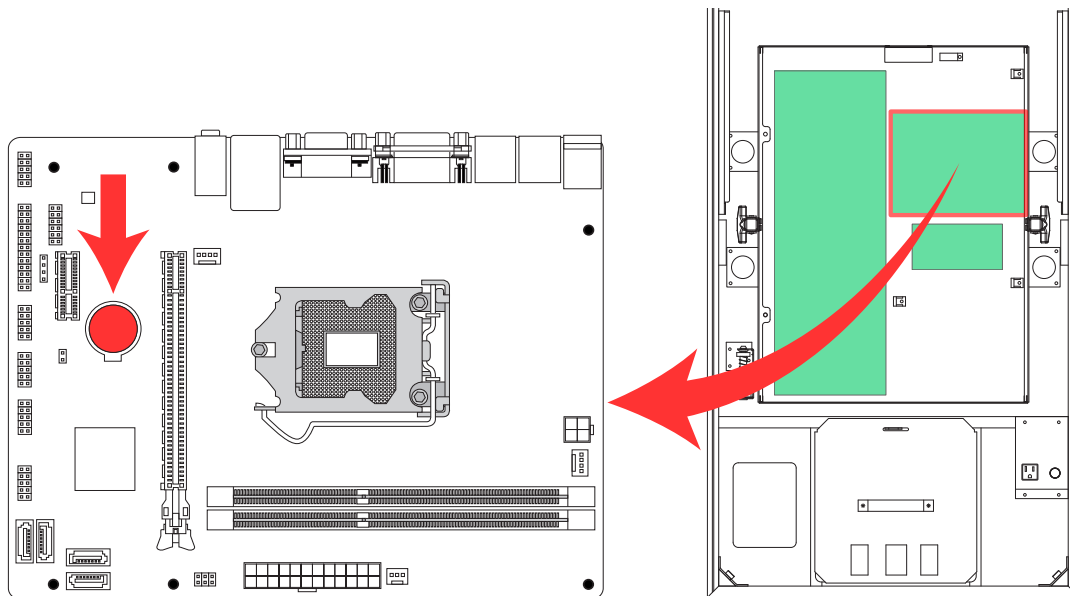


Figure E23. CPU board and battery locations (games manufactured before Oct 1, 2013).

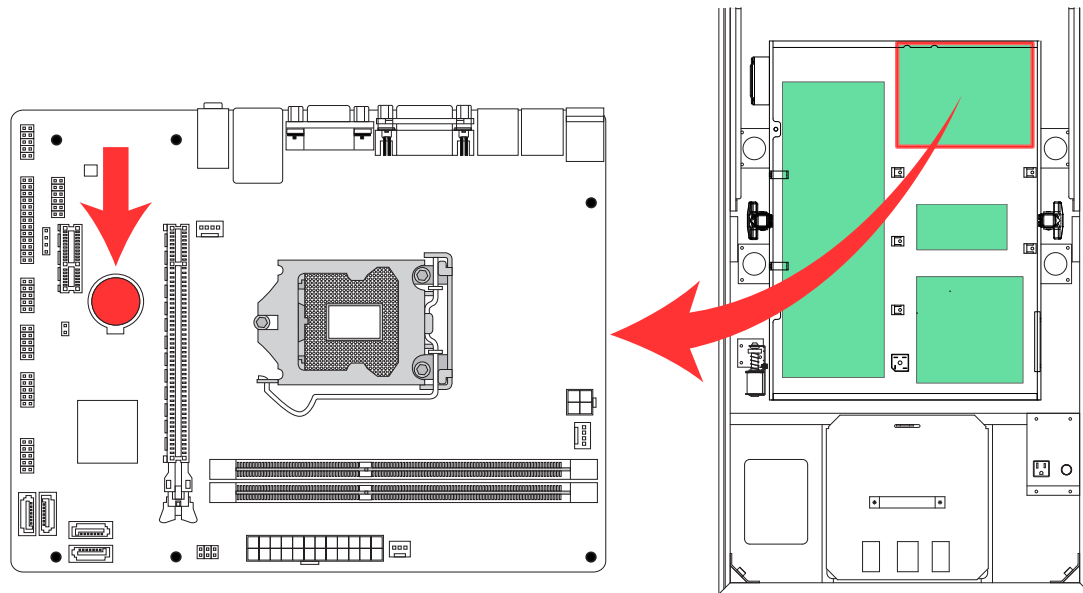


Figure E24. CPU board and battery locations (games manufactured on/after Oct 1, 2013).

8) Holding onto the tape “handle” with one hand, free the battery from its holder clip with the other. Ensure that the battery does not touch anything on the surface of the CPU board as you pull it out of its holder and away from the PCB Chassis.

9) Pull the tape “handle” off of the old battery and apply it to the top of a new CR2032 battery.

10) Again, momentarily touch the lockdown bar receiver on the game.

11) Holding the new battery’s tape “handle”, carefully insert it into the battery holder, in the same orientation as the old one (battery label/imprint facing *outward*). Ensure that the battery snaps into its holder properly.

12) Carefully remove the tape “handle” from the top of the new battery, ensuring that you do not pull the battery out of its holder in the process.

13) Replace the Cabinet PCB Chassis lid: Align the lid with the PCB chassis. Slide the two notches on the lid into the slots near the top of the right chassis side. Lower the left edge of the lid until its thumbscrews align with the PEM inserts on top of the left chassis side. **CAUTION:** Be careful not to pinch any wires in between the lid and the chassis! Hand tighten both thumbscrews down firmly.

14) Lower the playfield back down into the cabinet.

15) Slide the playfield glass back into the cabinet.

16) Replace the lockdown bar and close the coin door.

Note: If your game’s CPU battery discharges below 3V (or if you remove the battery) while the game is turned off, all BIOS settings will return to factory defaults. As a result, your game will not boot properly the next time you attempt to power it up. In this case, contact JJP® technical support for assistance in restoring your CPU BIOS settings and getting your game to successfully boot again.

E.7 The WOZ 2.0 Lighting System

(games manufactured on/after Dec 15, 2016)

JJP® designed and implemented a new lighting system in WOZ games manufactured on/after December 15, 2016. The new lighting system can be divided into two major subcomponents: communications/control and game lighting. One of the primary design criteria for the new system was parallel control of all lighting in the game; issues with single (or a small group of) LEDs would not affect large areas of the playfield. Modularity and flexibility were also paramount concerns.

Note: To avoid confusion, all WOZ 2.0 lighting system connection diagrams, PCB drawings, parts lists, schematics and connector pin-outs are consolidated in this Game Service & Troubleshooting subsection.

Theory of Operation

The new communications/control hub is the Bus, Accelerometer and GI (BAG) board; it is mounted, vertically, under the center of the main playfield (circled in red in figure E25). An onboard microcontroller receives data/commands over a USB connection to the CPU board (**J101**). Controls are then sent out, over an inter-integrated circuit (I2C) bus, through a Communications Hub board (circled in blue in figure E25), to the game's main RGB LED boards. Communicating over an I2C bus, between printed circuit boards, adds a great deal of flexibility to the system. Simultaneous control of all RGB LEDs in the game is now possible.

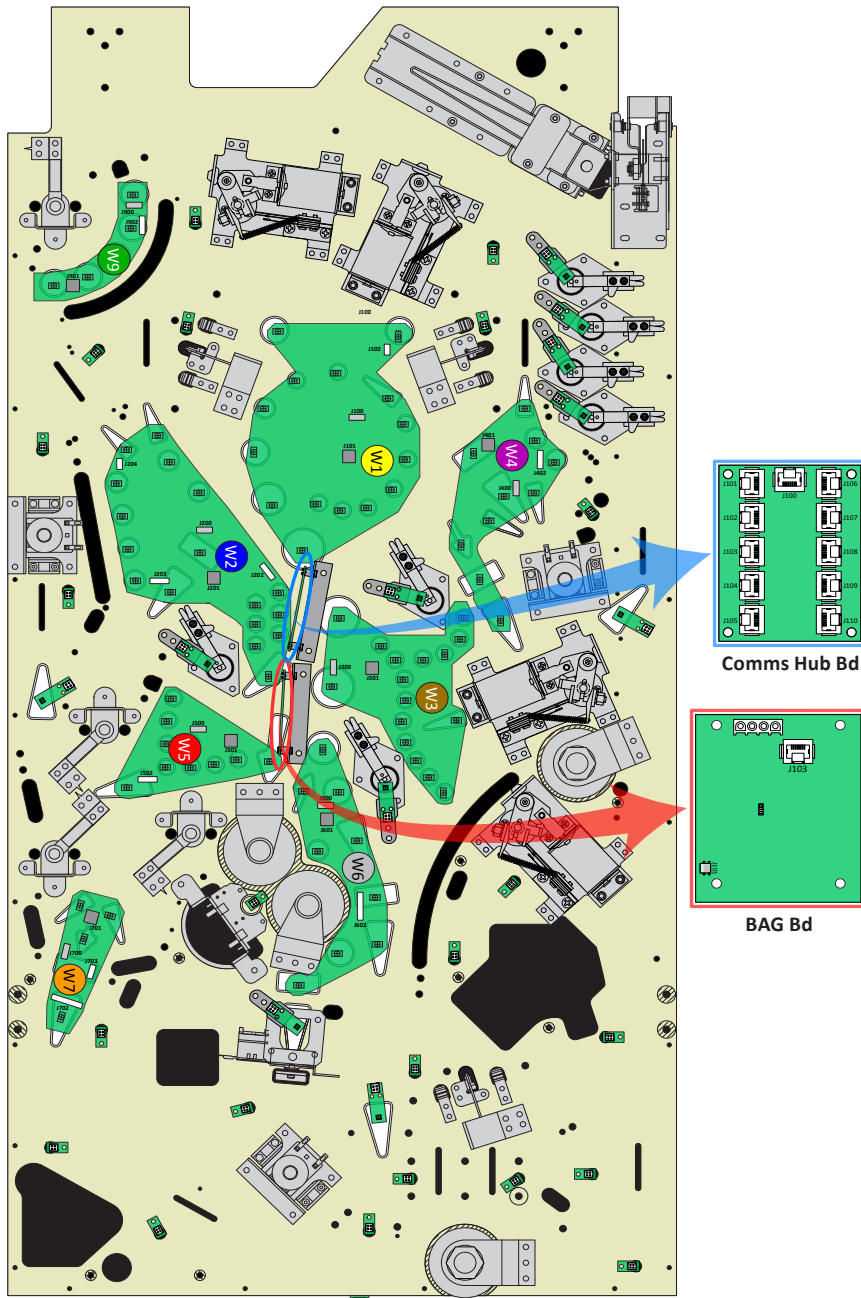


Figure E25. WOZ 2.0 lighting system communications boards.

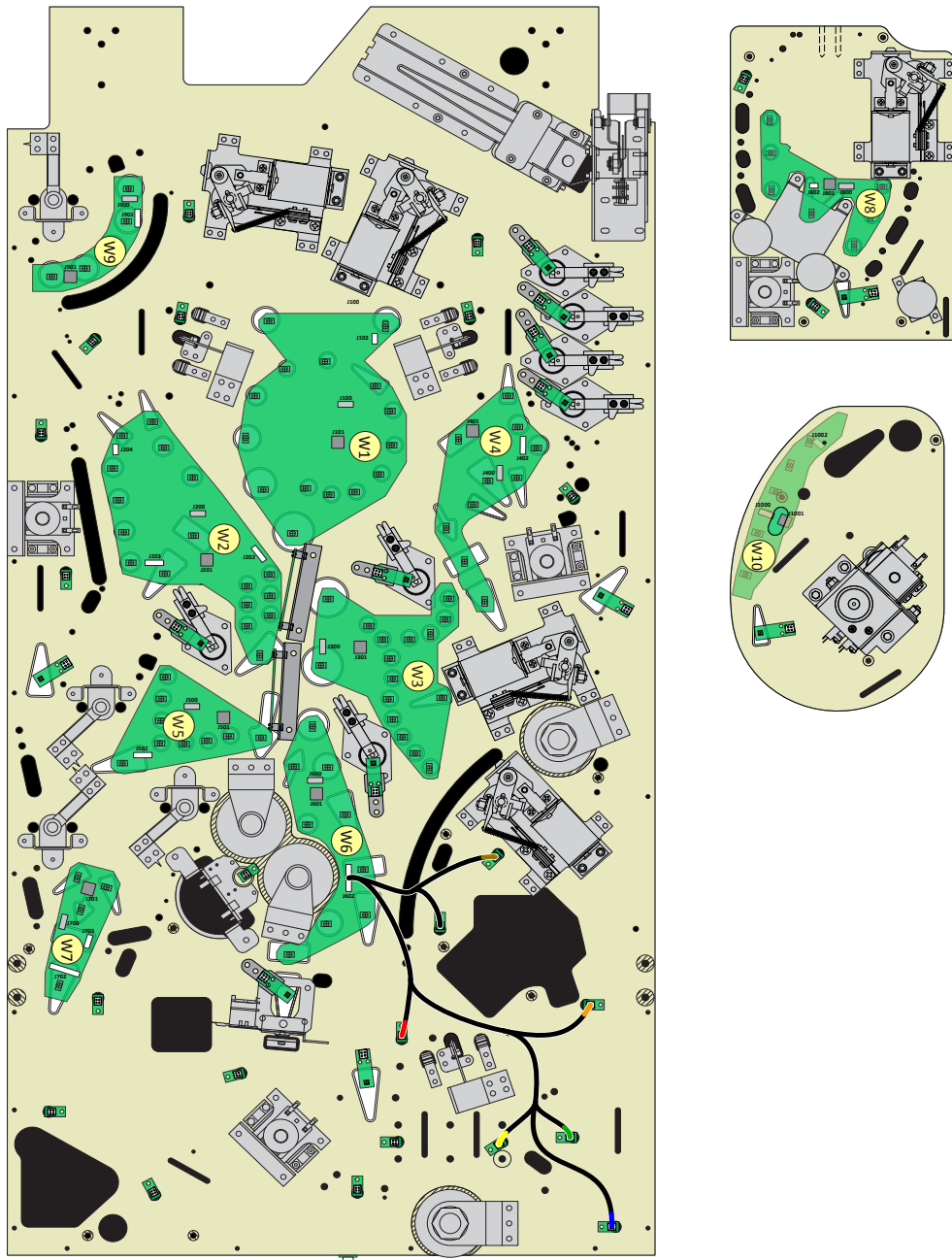


Figure E26. WOZ 2.0 lighting system RGB LED boards.

In WOZ 2.0, communication/control signals are distributed, through CAT5 ethernet cables, from the BAG board (**J103**), through the Communications Hub board (**J100-J110**), and on to the 10 main RGB LED boards (W1 through W10 in figure E26) in the game. Most of the 10 main RGB LED boards, in turn, control one or more “satellite” single RGB LED boards (adjacent to them, around the playfield).

Circuits resident on the 10 main (multi-) RGB LED boards are used to control the game’s feature and GI lighting. 4VDC is run through these boards to provide power to all of the RGB LED boards around the playfield (above and below). This 4VDC is supplied by the 7.5/4VDC Power Supply, located inside the cabinet PCB chassis (item 12, pg E-18 of this manual).

RGB LEDs are essentially 3 LEDs in one package: one red, one green and one blue. As such, four lines are run to each RGB LED in the game. One line supplies power (4VDC) to the LED package, the other three are individual intensity control/return lines - one for each LED color: **red, green, blue**. For satellite RGB LED boards, the four lines are run through four separate wires. The quartets of wires are bundled together into cable assemblies - like the black bundle shown coming off of the W6 board in figure E26.

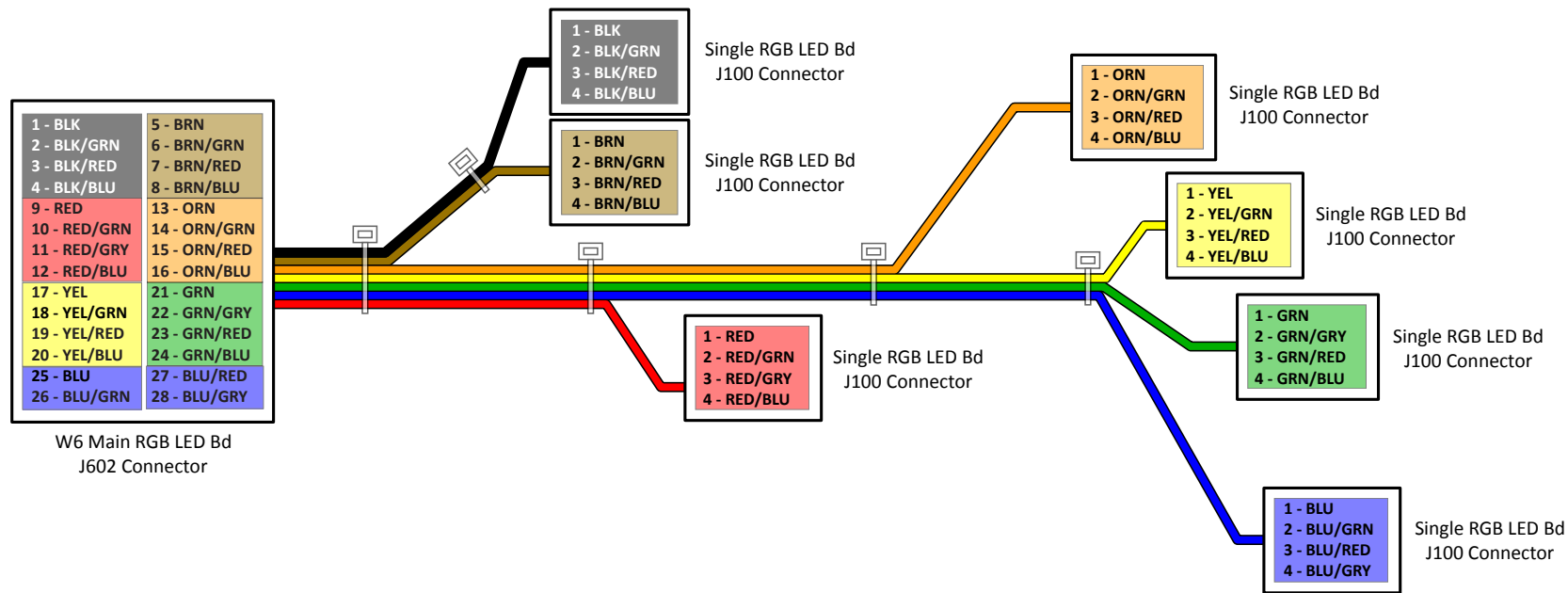
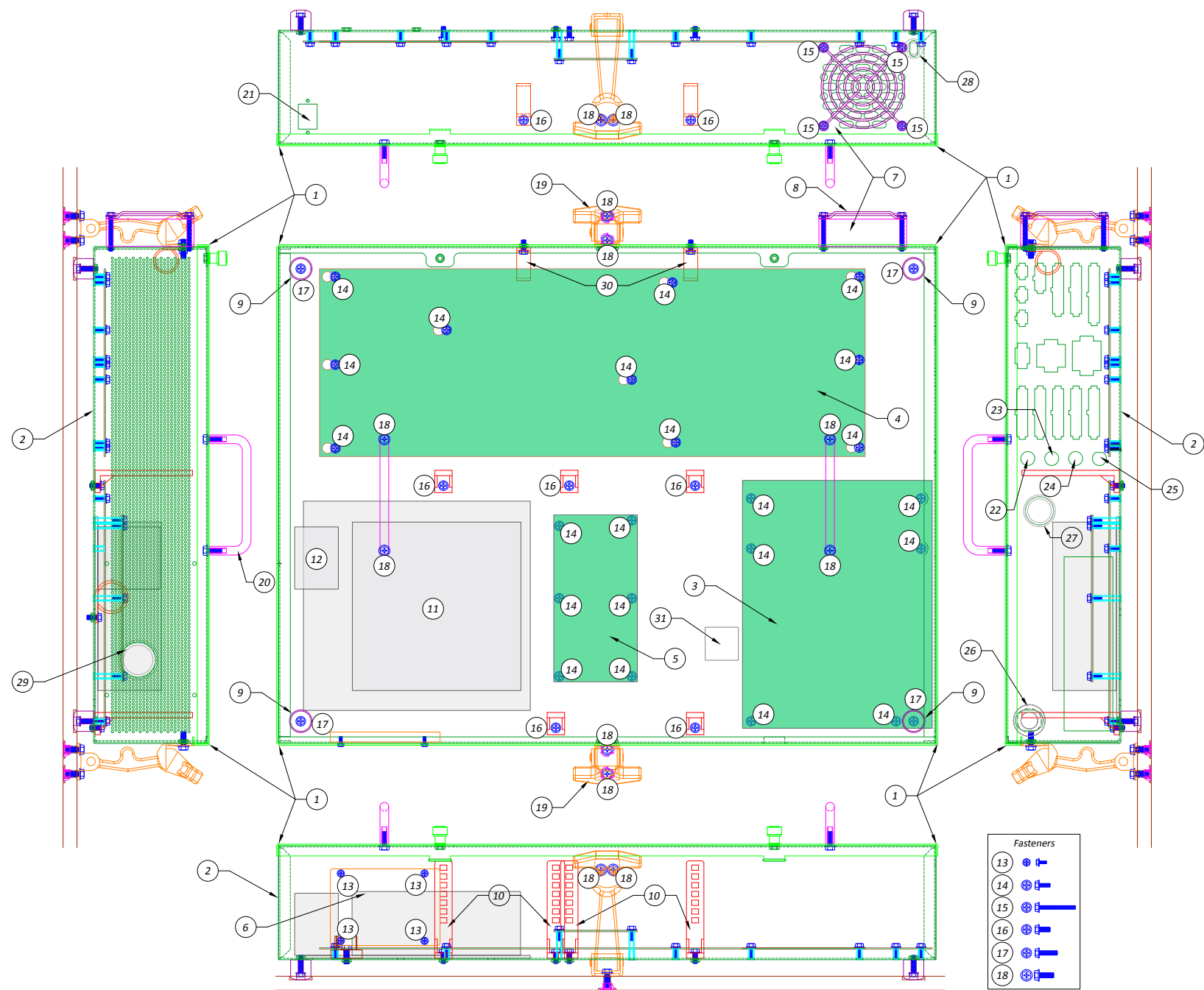


Figure E27. A sample WOZ 2.0 RGB LED cable assembly.

The power and control wires in a cable assembly are color coded to quickly identify which pins each RGB LED connects to at the WOZ main RGB LED board connector. A base color is used for each set of four wires. The power wire for each quartet is the base color, solid (no stripe); the control/return wire for each LED color is the base wire color with a stripe in that color. For example, if the base color is YEL, the power wire will be solid YEL. The wires controlling red, green and blue intensities will be YEL with a RED stripe, YEL with a GRN stripe and YEL with a BLU stripe, respectively. If the stripe color would match the wire’s base color, a GRY stripe is used for that control wire instead. Figure E27 above illustrates a sample RGB LED cable assembly.

The first RGB LED in each cable has a wire base color of BLK, the second has a base color of BRN, the third, a base color of RED and so on, through the resistor color code (BLK, BRN, RED, ORN, YEL, GRN, BLU, VIO). Color code references for RGB LED lighting wiring are included in feature lighting PF diagrams & tables (pgs E-20 to E-23) and in RGB LED board schematics & connector pin-out listings (pgs E-32 to E-61).

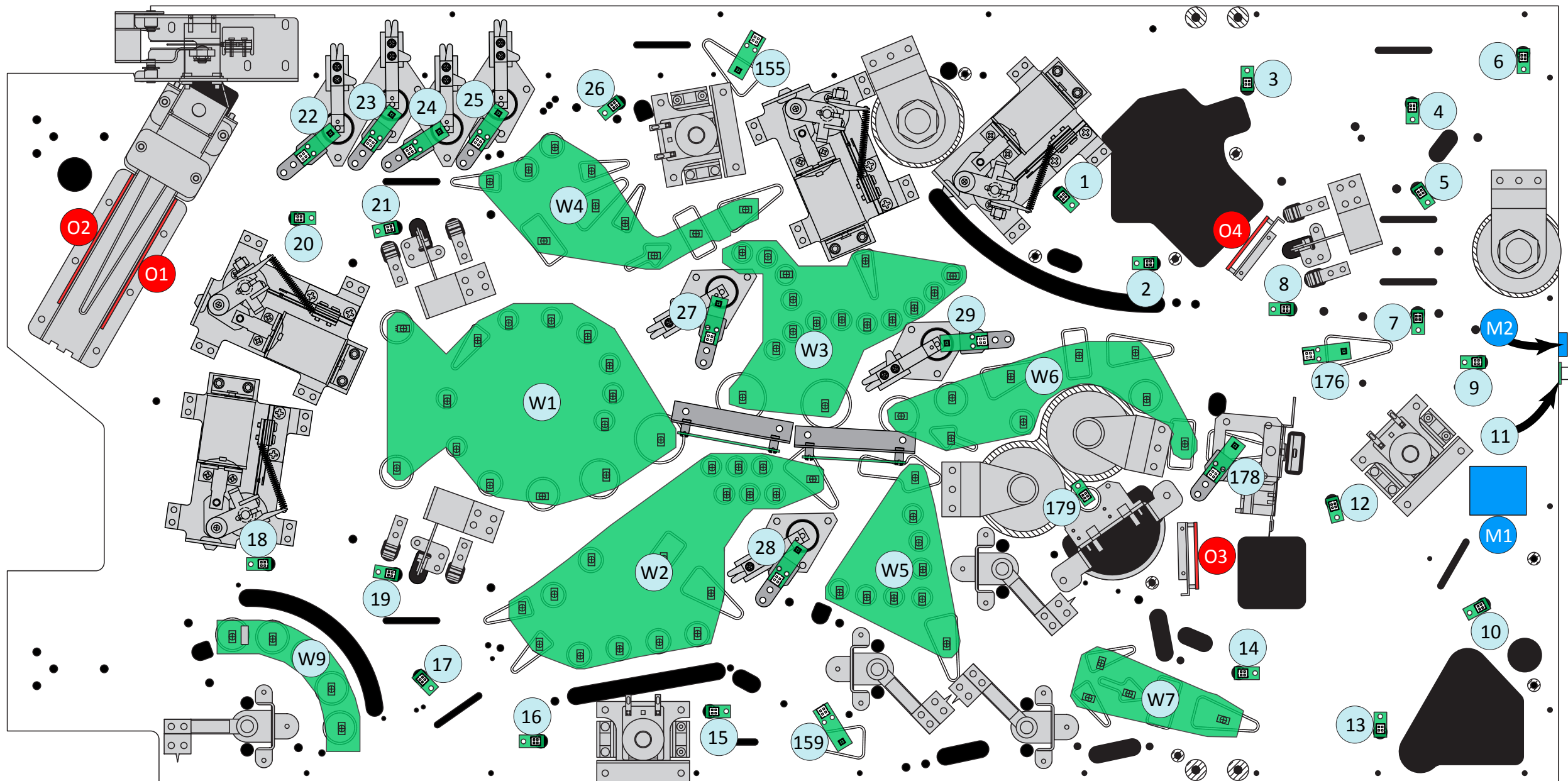
To set the radiant color for an RGB LED, we manipulate the intensity of each LED component, **red, green, blue**. For example, equal intensities of red and blue (along with no intensity of green) will result in a particular intensity of violet. Equal intensities of all three colors will create a certain intensity of cool white. If an LED is run at maximum intensity, it will produce very bright lighting effects - but both the driver IC and the LED itself will be working quite strenuously. In this case, the driver/LED combination will draw a lot of current and create a lot of heat (both undesirable). If an LED is run at a low intensity, it’ll produce very dim lighting effects, but the result will be much less taxing on the driver IC and RGB LED package. We typically run our RGB LEDs somewhere just above the middle of their operating range, in most situations. However, the overall feature lighting brightness in the game can be adjusted in the System Settings menu (see pg B-24 of this manual).



Cabinet PCB Chassis Assembly, WOZ 2.0

15-5000-03

Item	Part Number	Description	Qty	Item	Part Number	Description	Qty
1	10-0030-00	Electronic PCB Chassis Lid	1	14	80-2006-06	6-32 x 3/8" HWH Phillips MS, Serrated	22
2	10-5014-00	Electronic PCB Chassis	1	15	80-2006-20	6-32 x 1-1/4" HWH Phillips MS, Serrated	4
3	15-0000-01	CPU Bd, H81M-P133	1	16	80-2008-06	8-32 x 3/8" HWH Phillips MS, Serrated	7
	15-0014-00	Intel Celeron CPU G530 2.4GHz Processor	1	17	80-2008-10	8-32 x 5/8" HWH Phillips MS, Serrated	4
	15-0012-02	8GB Memory Module	1	18	80-2010-08	10-32 x 1/2" HWH Phillips MS, Serrated	12
or	15-0012-00	4GB Memory Module	2	19	98-0002-00	Rubber Flex Latch	2
4	15-4001-02	I/O Bd PCB Assy, WOZ 2.0	1	20	98-0003-00	1-1/2" Metal Handle, 1/4" Round, 10-32	2
	19-5007-00	I/O Bd Right Output Cable, 10/15	1	21	22-8005-00	RJ45 Bulkhead Coupler, F-F	1
	19-5007-01	I/O Bd Left Output Cable, 10/15	1	22	22-8004-04	RCA Bulkhead Jack, Yellow, F-F	1
	19-9005-02	I/O Bd AC Input Cable	1	23	22-8004-09	RCA Bulkhead Jack, White, F-F	1
5	15-0002-00	Sound Amplifier Bd	1	24	22-8004-02	RCA Bulkhead Jack, Red, F-F	1
6	15-0003-00	Solid State Drive, 32GB	1	25	22-8003-00	3.5mm Bulkhead Jack, F-F	1
7	23-5004-00	Fan, 12VDC Motor, 3.125"	1	26	25-9010-00	PCB Chassis CPU Grommet, Left	1
8	10-0110-00	Fan Guard, 3.125"	1	27	25-9011-00	PCB Chassis CPU Grommet, Right	1
9	25-9007-00	PCB Chassis Rubber Foot	4	28	25-9013-00	PCB Chassis Fan Grommet	1
10	30-0033-01	Nylon Cable Ladder, 3.5"	5	29	30-0108-01	Locking Grommet, 1-1/4"	1
11	16-0011-00	Primary ATX Power Supply, 460W, w/24VDC	1	30	30-0049-12	Nylon Cable Clamp, Open, 3/4"	2
12	16-0010-00	7.5/4VDC Power Supply	1	31	195-0000-00	CPU Bd Ferrite	1
13	80-2104-04	4-40 x 1/4" HWH MS, Black	4				

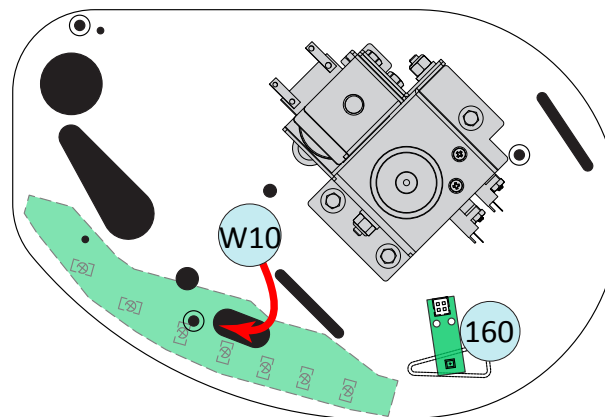
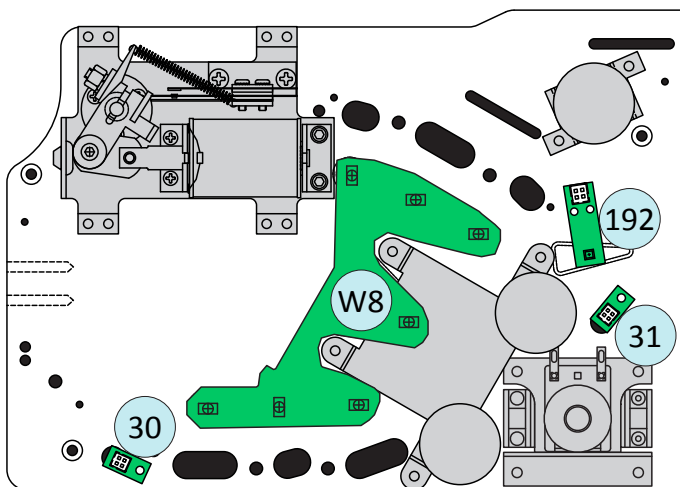


Color Key:

Green - RGB LED Boards

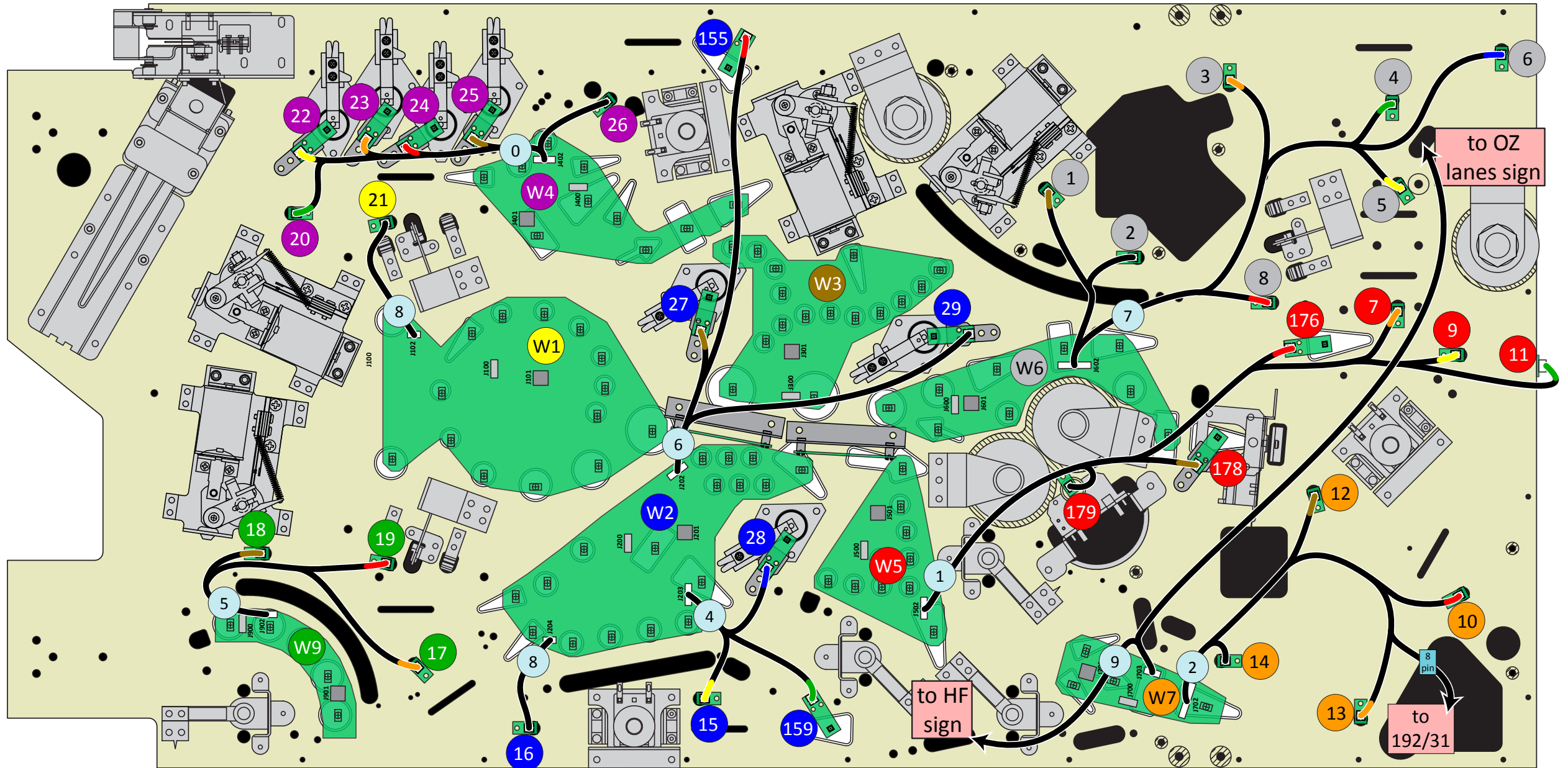
Red - Opto Boards

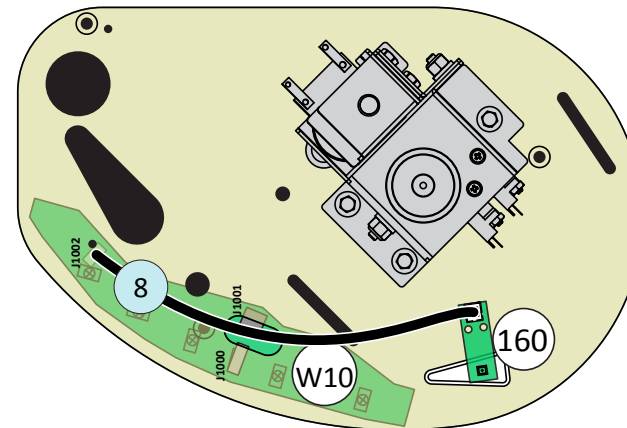
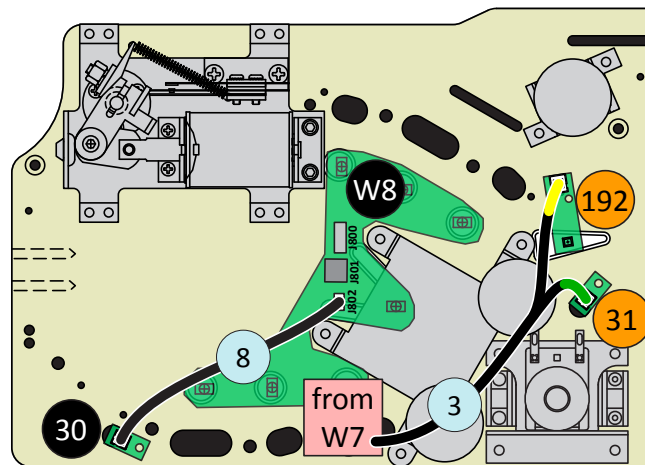
Blue - Other Boards



WOZ 2.0 Playfield Printed Circuit Boards

Board	Part Number	Description	Details
O1	15-0004-00	5-Ball Trough Opto Receiver Board	D-2
O2	15-0004-01	5-Ball Trough Opto Transmitter Board	D-5
O3	15-0007-00	Left-Side Opto I/O Board	D-7
O4	15-0007-00	Right-Side Opto I/O Board	D-7
W1	15-0044-01	WOZ 2.0 FTYBR RGB LED Board, W1	E-32
W2	15-0044-02	WOZ 2.0 Tin Man RGB LED Board, W2	E-35
W3	15-0044-03	WOZ 2.0 Lion RGB LED Board, W3	E-38
W4	15-0044-04	WOZ 2.0 Throne Room RGB LED Board, W4	E-41
W5	15-0044-05	WOZ 2.0 Haunted Forest RGB LED Board, W5	E-44
W6	15-0044-06	WOZ 2.0 Scarecrow RGB LED Board, W6	E-47
W7	15-0044-07	WOZ 2.0 Winged Monkey RGB LED Board, W7	E-50
W8	15-0044-08	WOZ 2.0 Witch Castle RGB LED Board, W8	E-53
W9	15-0044-09	WOZ 2.0 TNPLH RGB LED Board, W9	E-56
W10	15-0044-10	WOZ 2.0 Rainbow RGB LED Board, W10 (under Rainbow plastic, above Munchkinland PF)	E-59
11, 22-25, 27-29, 155, 159, 160, 176, 178, 192	15-0028-01	Single RGB LED Board, 2.5mm (board 11 attached to back panel)	E-63
1-10, 12-21, 26, 30, 31, 179	15-0051-00	RGB GI Board	E-62
M1	15-0009-00	Motor Relay Board	D-115
M2	15-0016-00	Magnet Sense Board (attached to back panel)	D-162

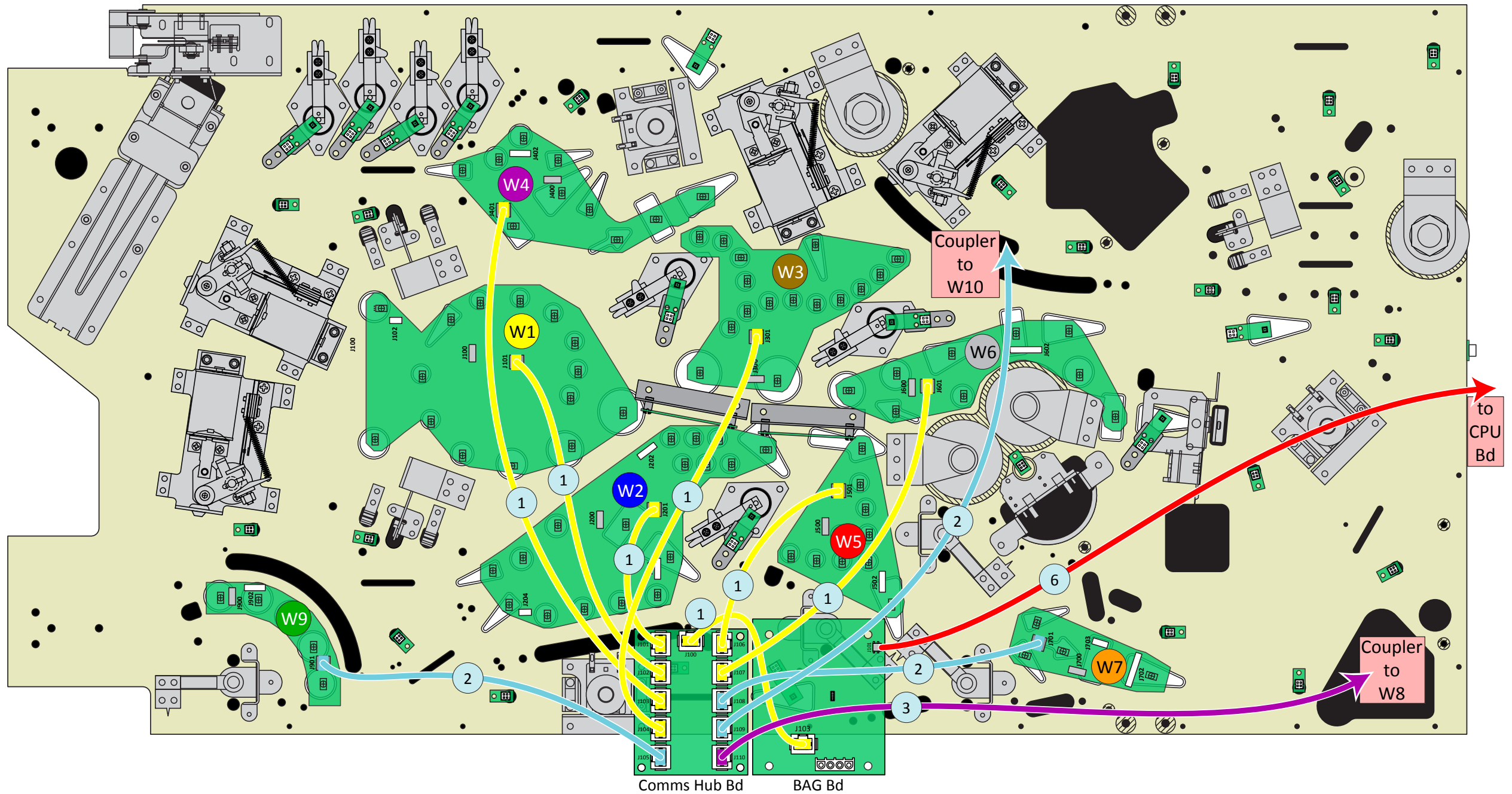


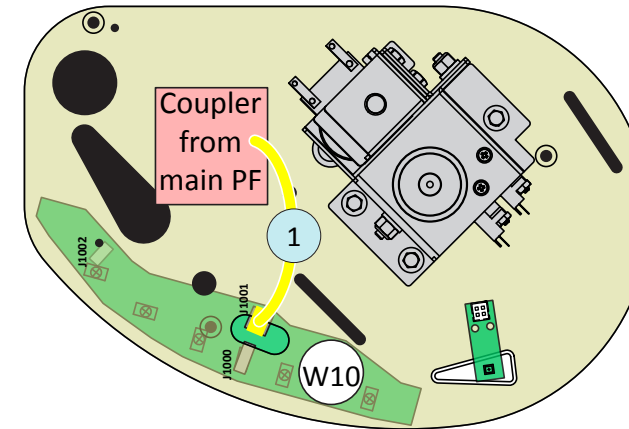
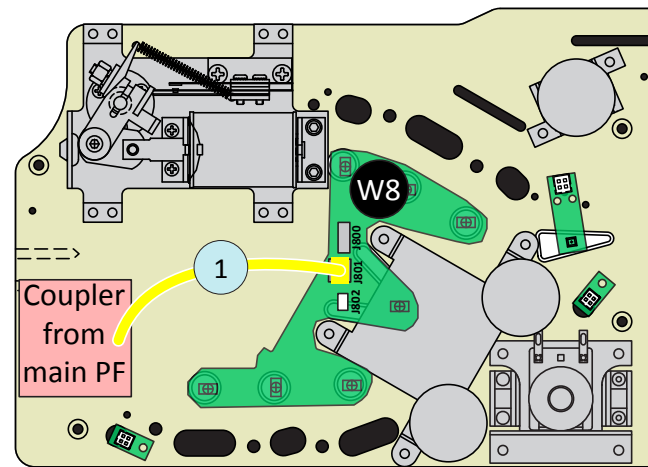


WOZ 2.0 RGB LED Wiring

RGB Cables

Cable	Description	Part Number	Main RGB Bd-Connector	Details
0	WOZ 2.0 Lower Right RGB Cable	19-3096-00	W4-J402	E-41
1	WOZ 2.0 Upper Middle RGB Cable	19-3096-01	W5-J502	E-44
2	WOZ 2.0 Upper Left RGB Cable	19-3096-02	W7-J702	E-50
3	WOZ 2.0 Castle Playfield RGB Cable	19-3096-03	W7-J702 (through inline connector)	E-50
4	WOZ 2.0 Left Middle RGB Cable	19-3096-04	W2-J203	E-35
5	WOZ 2.0 Lower Left RGB Cable	19-3096-05	W9-J902	E-56
6	WOZ 2.0 Right Middle RGB Cable	19-3096-06	W2-J202	E-35
7	WOZ 2.0 Upper Right RGB Cable	19-3096-07	W6-J602	E-47
8	WOZ 2.0 Single RGB Cable (4 used)	19-3096-08	W1-J102, W2-J204, W8-J802, W10-J1002	E-32
9	OZ Lanes & Haunted Forest Signs Cable	19-3049-00	W7-J703	E-50

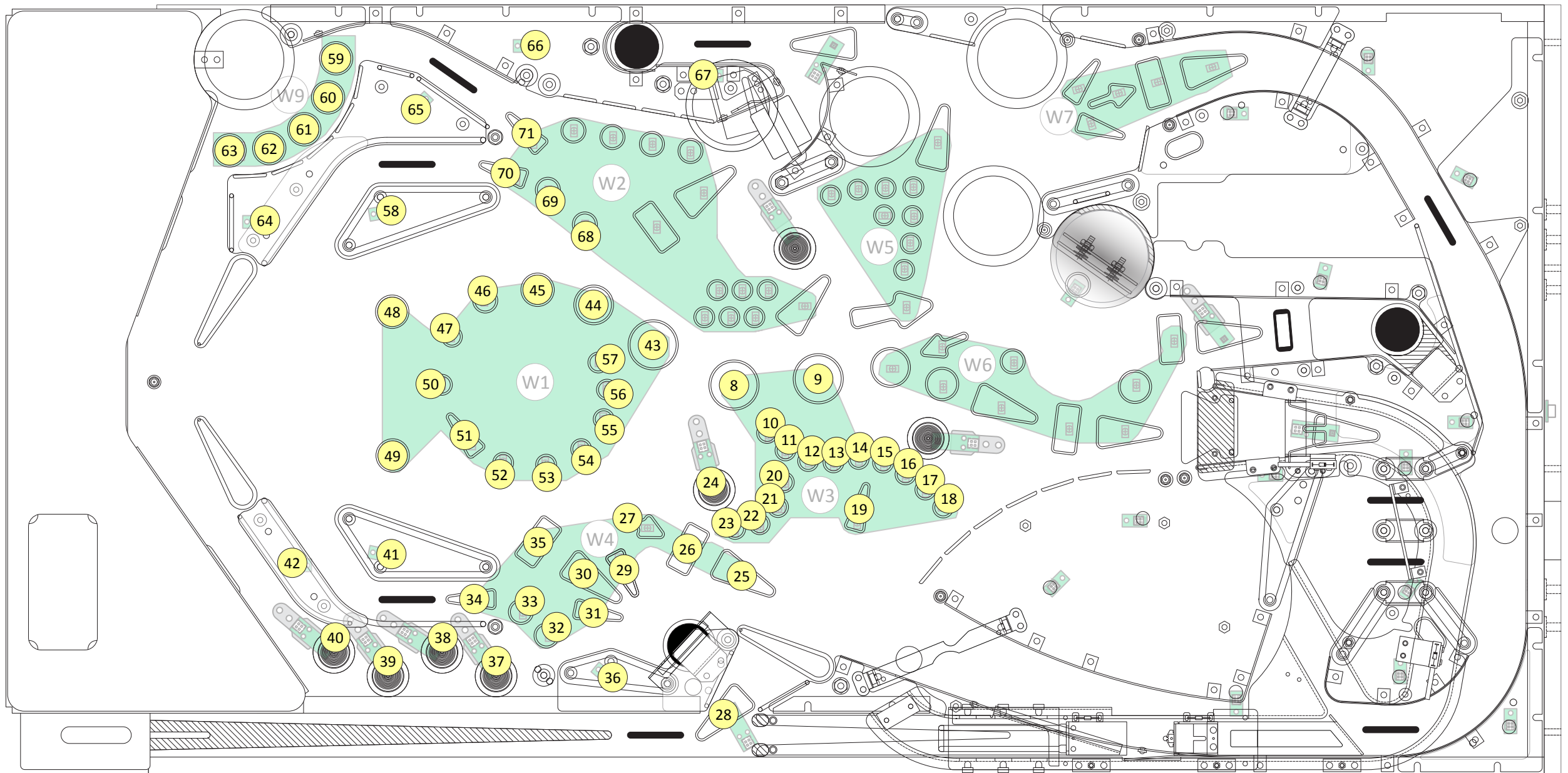




WOZ 2.0 RGB LED Wiring

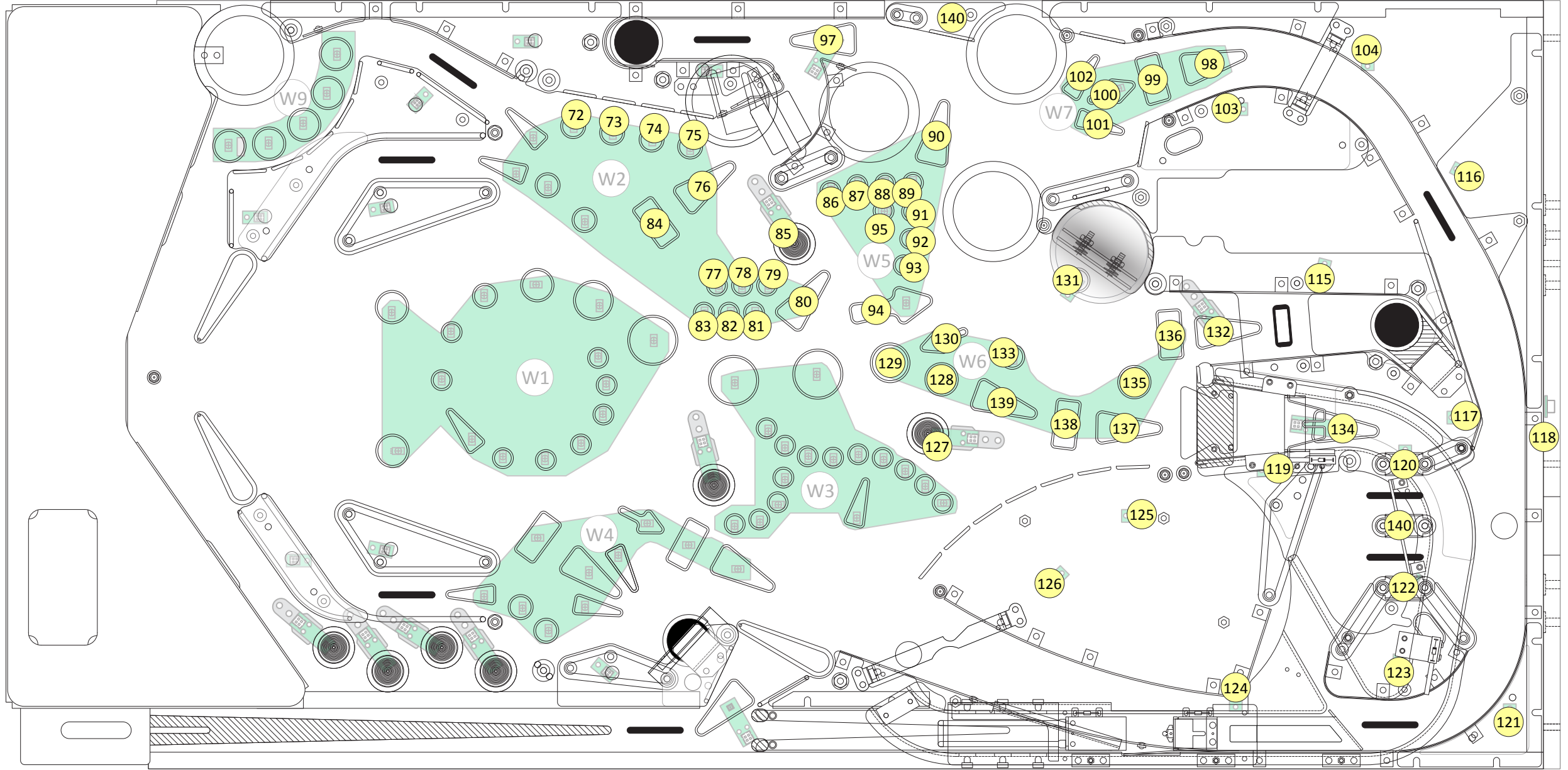
Ethernet Cables

Cable	Description	Part Number	Qty
1	Ethernet Cable, Cat5E, 1ft	19-3042-01	9
2	Ethernet Cable, Cat5E, 2ft	19-3042-02	3
3	Ethernet Cable, Cat5E, 3ft	19-3042-03	1
6	USB Cable, 2.0 A to Mini-B, M-M, Shld, 6ft	19-3100-06	1
-	RJ45 Inline Coupler, F-F (for mini PFs)	22-8005-10	2



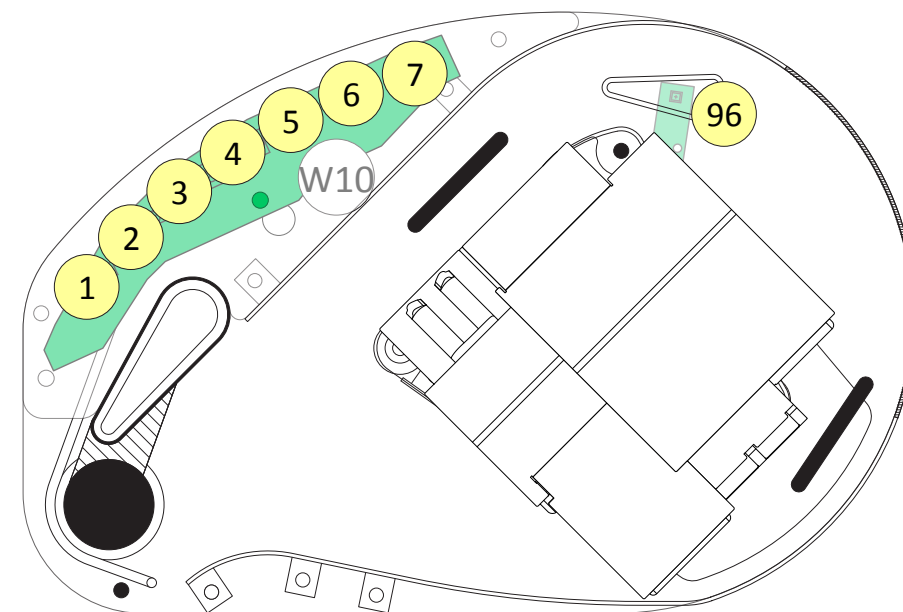
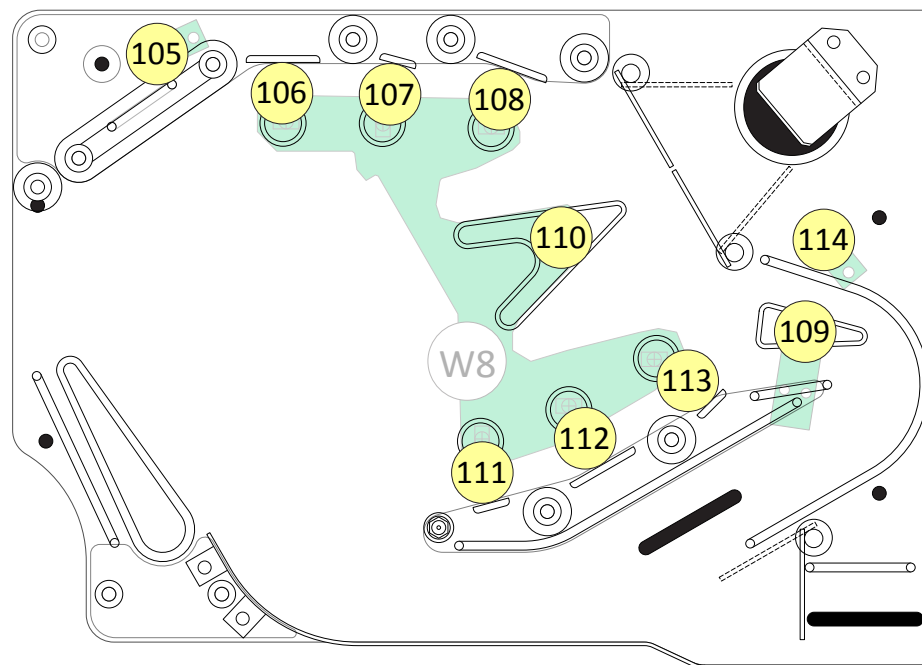
WOZ 2.0 Main Playfield Feature Lighting & General Illumination (1 of 2)

Test LED	Location/Function	RGB LED Board	Part Number	Details	Test LED	Location/Function	RGB LED Board	Part Number	Details
8	Hour Glass	W3	15-0044-03	E-38	40	TOTO Rollover	22	15-0028-01	E-63
9	Yellow Brick Road 8	W3	15-0044-03	E-38	41	Right Sling GI	21	15-0051-00	E-62
10	SCARECROW™	W3	15-0044-03	E-38	42	Right Return GI	20	15-0051-00	E-62
11	SCARECROW™	W3	15-0044-03	E-38	43	Yellow Brick Road 7	W1	15-0044-01	E-32
12	SCARECROW™	W3	15-0044-03	E-38	44	Yellow Brick Road 6	W1	15-0044-01	E-32
13	SCARECROW™	W3	15-0044-03	E-38	45	Yellow Brick Road 5	W1	15-0044-01	E-32
14	SCARECROW™	W3	15-0044-03	E-38	46	Yellow Brick Road 4	W1	15-0044-01	E-32
15	SCARECROW™	W3	15-0044-03	E-38	47	Yellow Brick Road 3	W1	15-0044-01	E-32
16	SCARECROW™	W3	15-0044-03	E-38	48	Super X	W1	15-0044-01	E-32
17	SCARECROW™	W3	15-0044-03	E-38	49	Shoot Again	W1	15-0044-01	E-32
18	SCARECROW™	W3	15-0044-03	E-38	50	Yellow Brick Road 2	W1	15-0044-01	E-32
19	Upper Right Flipper Skill	W3	15-0044-03	E-38	51	Yellow Brick Road 1	W1	15-0044-01	E-32
20	Cowardly LION™	W3	15-0044-03	E-38	52	Yellow Brick Road Lead-In 6	W1	15-0044-01	E-32
21	Cowardly LION™	W3	15-0044-03	E-38	53	Yellow Brick Road Lead-In 5	W1	15-0044-01	E-32
22	Cowardly LION™	W3	15-0044-03	E-38	54	Yellow Brick Road Lead-In 4	W1	15-0044-01	E-32
23	Cowardly LION™	W3	15-0044-03	E-38	55	Yellow Brick Road Lead-In 3	W1	15-0044-01	E-32
24	Cowardly Lion™ Rollover	27	15-0028-01	E-63	56	Yellow Brick Road Lead-In 2	W1	15-0044-01	E-32
25	Right Orbit Emerald Arrow	W4	15-0044-04	E-41	57	Yellow Brick Road Lead-In 1	W1	15-0044-01	E-32
26	Right Orbit Horse	W4	15-0044-04	E-41	58	Left Sling GI	19	15-0051-00	E-62
27	Right Orbit Advance YBR	W4	15-0044-04	E-41	59	THERE'S NO PLACE LIKE HOME™	W9	15-0044-09	E-56
28	Horse Collect	155	15-0028-01	E-63	60	THERE'S NO PLACE LIKE HOME™	W9	15-0044-09	E-56
29	Throne Room Extra Ball	W4	15-0044-04	E-41	61	THERE'S NO PLACE LIKE HOME™	W9	15-0044-09	E-56
30	Throne Room Emerald Arrow	W4	15-0044-04	E-41	62	THERE'S NO PLACE LIKE HOME™	W9	15-0044-09	E-56
31	Throne Room Special	W4	15-0044-04	E-41	63	THERE'S NO PLACE LIKE HOME™	W9	15-0044-09	E-56
32	Right Inlane Winkie Guard Hurry	W4	15-0044-04	E-41	64	Left Return, Low GI	18	15-0051-00	E-62
33	Right Inlane Crystal Ball Hurry	W4	15-0044-04	E-41	65	Left Return, High GI	17	15-0051-00	E-62
34	Right Inlane OZ Lane Hurry	W4	15-0044-04	E-41	66	Crystal Ball, Low GI	16	15-0051-00	E-62
35	Throne Room Horse	W4	15-0044-04	E-41	67	Crystal Ball, High GI	15	15-0051-00	E-62
36	Throne Room GI	26	15-0051-00	E-62	68	Left Inlane Rainbow Hurry	W2	15-0044-02	E-35
37	TOTO Rollover	25	15-0028-01	E-63	69	Left Inlane Throne Room Hurry	W2	15-0044-02	E-35
38	TOTO Rollover	24	15-0028-01	E-63	70	Left Inlane OZ Lane Hurry	W2	15-0044-02	E-35
39	TOTO Rollover	23	15-0028-01	E-63	71	Click Heels	W2	15-0044-02	E-35



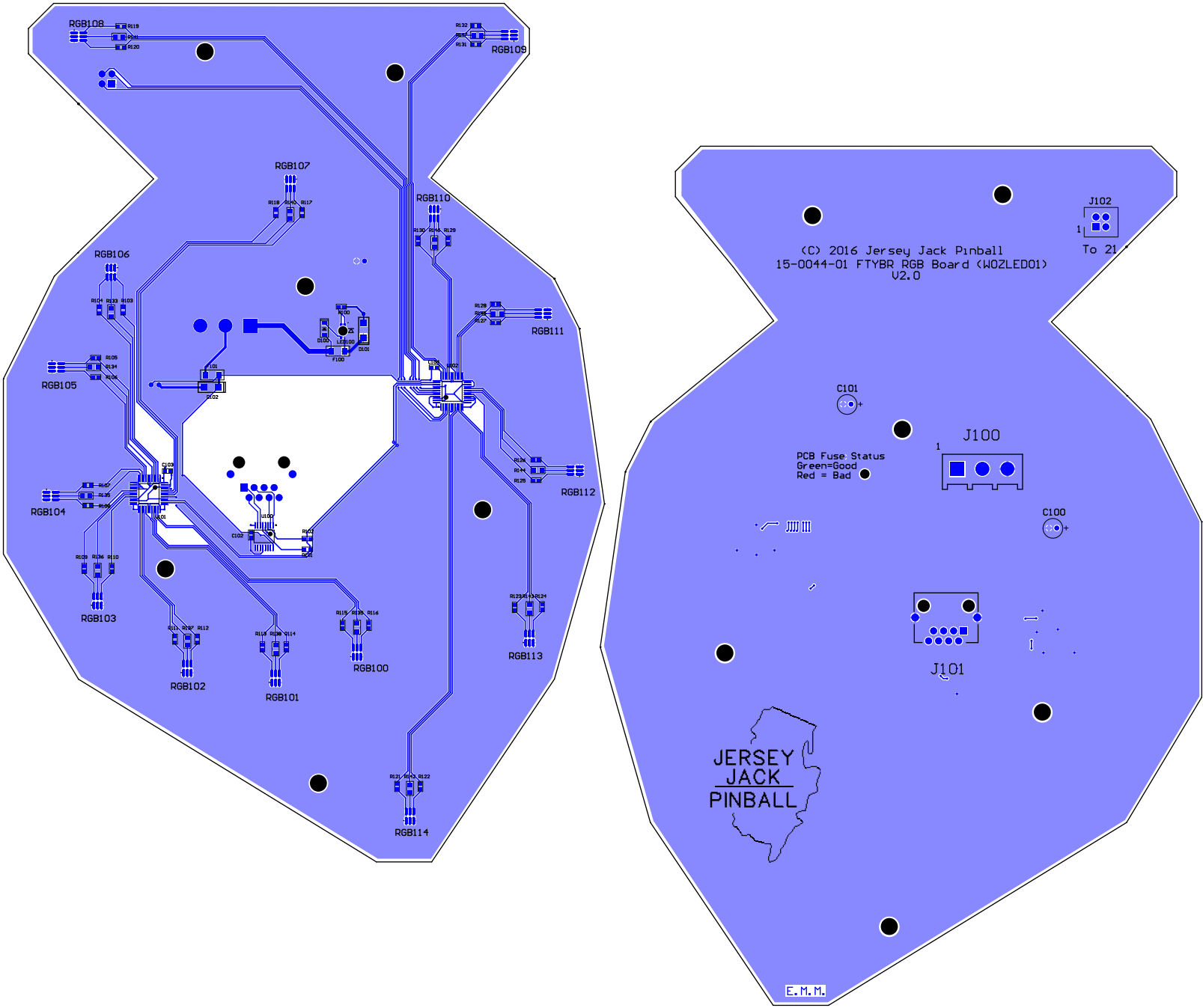
WOZ 2.0 Main Playfield Feature Lighting & General Illumination (2 of 2)

Test LED	Location/Function	RGB LED Board	Part Number	Details	Test LED	Location/Function	RGB LED Board	Part Number	Details
72	Crystal BALL	W2	15-0044-02	E-35	102	WINGED MONKEY™	W7	15-0044-07	E-50
73	Crystal BALL	W2	15-0044-02	E-35	103	Left Orbit, Low GI	14	15-0051-00	E-62
74	Crystal BALL	W2	15-0044-02	E-35	104	Left Orbit, Mid GI	13	15-0051-00	E-62
75	Crystal BALL	W2	15-0044-02	E-35	115	Winkie Guard, Left GI	12	15-0051-00	E-62
76	Crystal Ball Emerald Arrow	W2	15-0044-02	E-35	116	Left Orbit, High GI	10	15-0051-00	E-62
77	TIN MAN™	W2	15-0044-02	E-35	117	Winkie Guard, Right GI	9	15-0051-00	E-62
78	TIN MAN™	W2	15-0044-02	E-35	118	Back Panel Capture Dorothy™	11	15-0028-01	E-63
79	TIN MAN™	W2	15-0044-02	E-35	119	Top Sling GI	8	15-0051-00	E-62
80	Pop Bumpers Emerald Arrow	W2	15-0044-02	E-35	120	Wizard of OZ™ Lanes, Left GI	7	15-0051-00	E-62
81	TIN MAN™	W2	15-0044-02	E-35	121	Upper Right Corner GI	6	15-0051-00	E-62
82	TIN MAN™	W2	15-0044-02	E-35	122	Wizard of OZ™ Lanes, Right GI	5	15-0051-00	E-62
83	TIN MAN™	W2	15-0044-02	E-35	123	Right Orbit, High GI	4	15-0051-00	E-62
84	Crystal Ball Horse	W2	15-0044-02	E-35	124	Right Orbit, Low GI	3	15-0051-00	E-62
85	Tin Man™ Rollover	28	15-0028-01	E-63	125	Under Munchkinland, High GI	2	15-0051-00	E-62
86	HAUNTED Forest™	W5	15-0044-05	E-44	126	Under Munchkinland, Low GI	1	15-0051-00	E-62
87	HAUNTED Forest™	W5	15-0044-05	E-44	127	Scarecrow™ Rollover	29	15-0028-01	E-63
88	HAUNTED Forest™	W5	15-0044-05	E-44	128	Yellow Brick Road 10	W6	15-0044-06	E-47
89	HAUNTED Forest™	W5	15-0044-05	E-44	129	Yellow Brick Road 9	W6	15-0044-06	E-47
90	Pop Bumpers Skill	W5	15-0044-05	E-44	130	Witch Fireball	W6	15-0044-06	E-47
91	HAUNTED Forest™	W5	15-0044-05	E-44	131	Witch Ball, Left	179	15-0051-00	E-62
92	HAUNTED Forest™	W5	15-0044-05	E-44	132	Winkie Guard Emerald Arrow	178	15-0028-01	E-63
93	HAUNTED Forest™	W5	15-0044-05	E-44	133	Witch Ball, Right	W6	15-0044-06	E-47
94	Wicked Witch™	W5	15-0044-05	E-44	134	Ramp It's A Twister!	176	15-0028-01	E-63
95	Haunted Owl	W5	15-0044-05	E-44	135	Glinda Star	W6	15-0044-06	E-47
97	Haunted Collect	159	15-0028-01	E-63	136	Winkie Guard Horse	W6	15-0044-06	E-47
98	Left Orbit Emerald Arrow	W7	15-0044-07	E-50	137	Ramp Lock	W6	15-0044-06	E-47
99	Left Orbit Horse	W7	15-0044-07	E-50	138	Ramp Horse	W6	15-0044-06	E-47
100	Left Orbit Advance YBR	W7	15-0044-07	E-50	139	Ramp Emerald Arrow	W6	15-0044-06	E-47
101	WINGED MONKEY™	W7	15-0044-07	E-50	140	Wizard of OZ™ Lanes/Haunted Forest™ LEDs in Playfield Sign Plastics			



WOZ 2.0 Mini Playfield Feature Lighting & General Illumination

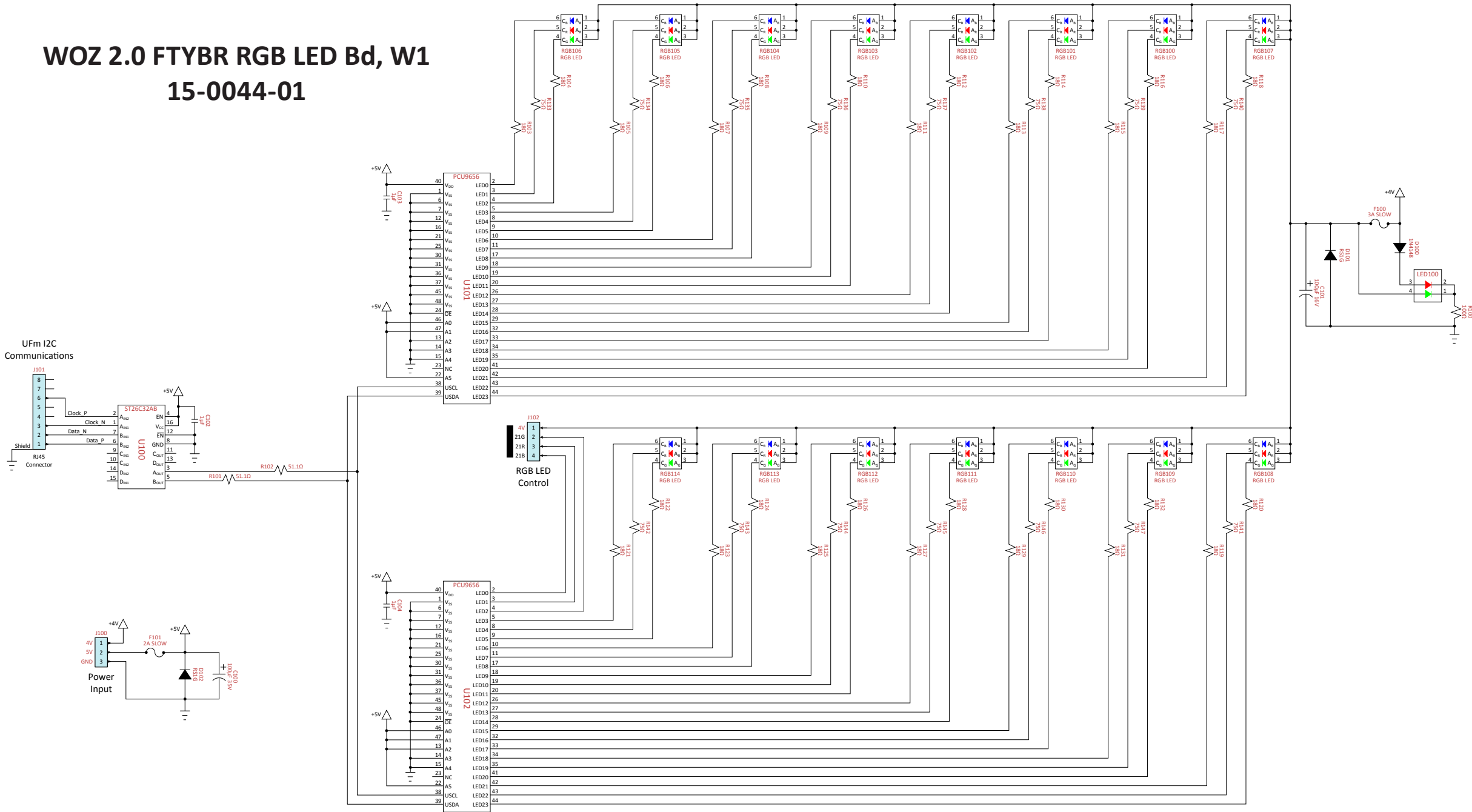
Test LED	Location/Function	RGB LED Board	Part Number	Details
1	Munchkinland RAINBOW	W10	15-0044-10	E-59
2	Munchkinland RAINBOW	W10	15-0044-10	E-59
3	Munchkinland RAINBOW	W10	15-0044-10	E-59
4	Munchkinland RAINBOW	W10	15-0044-10	E-59
5	Munchkinland RAINBOW	W10	15-0044-10	E-59
6	Munchkinland RAINBOW	W10	15-0044-10	E-59
7	Munchkinland RAINBOW	W10	15-0044-10	E-59
96	Munchkinland Arrow	160	15-0028-01	E-63
105	Castle, Low GI	30	15-0051-00	E-62
106	Castle RESCUE	W8	15-0044-08	E-53
107	Castle RESCUE	W8	15-0044-08	E-53
108	Castle RESCUE	W8	15-0044-08	E-53
109	Castle Search	192	15-0028-01	E-63
110	Castle Break Down Door	W8	15-0044-08	E-53
111	Castle RESCUE	W8	15-0044-08	E-53
112	Castle RESCUE	W8	15-0044-08	E-53
113	Castle RESCUE	W8	15-0044-08	E-53
114	Castle, High GI	31	15-0051-00	E-62

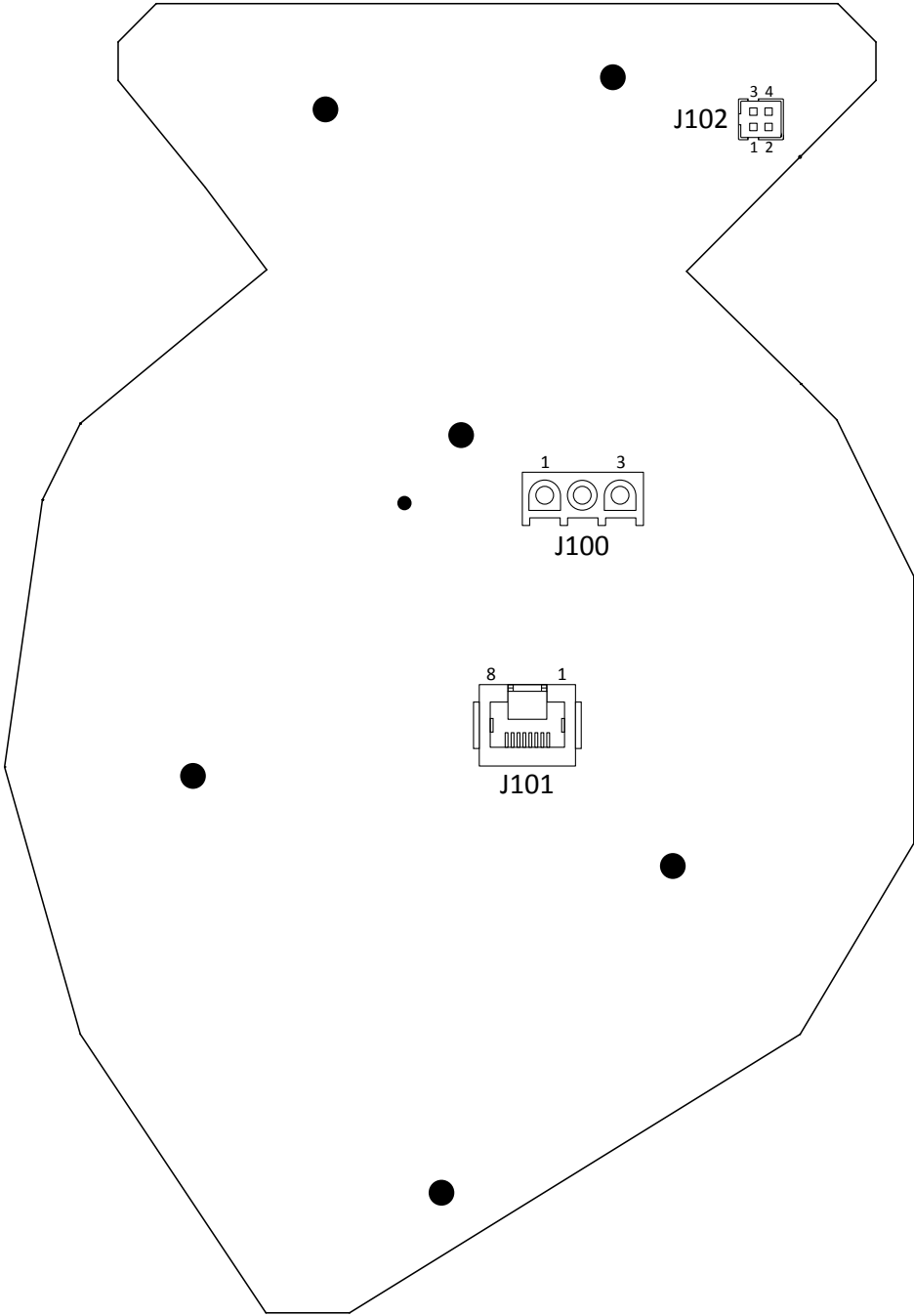


WOZ 2.0 FTYBR RGB LED Bd, W1
15-0044-01
(games manufactured on/after Dec 15, 2016)

Component(s)	Part Number	Description
C100, C101	109-100M-016	Capacitor, Elect (Radial), 100μF, 16V, 20%
C102-C104	103-105Z-016	Capacitor, MLCC, 0603 SMT, 1μF, 16V, +80%, -20%
D100	110-1001-0S	Diode, 1N4148, SMT, 100V, 300mA
D101, D102	110-5001-0S	Diode, RS1G, SMT, 400V, 1A, 150ns
F100	170-6303-SS	Fuse, Slow, 1206 SMT, 3A, 63V
F101	170-6302-SS	Fuse, Slow, 1206 SMT, 2A, 63V
LED100	24-0024-0S	LED, SMD, Rev Mount, RED/GRN, 631/573nm
R100	122-0100-104	Resistor, 0603 SMT, 100Ω, 0.1W, 5%
R101, R102	122-51P1-102	Resistor, 0603 SMT, 51.1Ω, 0.1W, 1%
R103-R132	122-0018-102	Resistor, 0603 SMT, 18Ω, 0.1W, 1%
R133-R147	120-0075-122	Resistor, 0805 SMT, 75Ω, 0.125W, 1%
RGB100-RGB114	24-0016-00	LED, SMT, High-Power RGB, 624/527/470nm
U100	141-0020-0S	Quad Diff Line Rcvr w/3-State Outputs, ST26C32AB, TSSOP-16 SMT
U101, U102	140-0005-0S	LED Driver, I2C-Bus, 24-Bit, 5MHz, PCU9656, LQFP-48 SMT
J100	30-2005-03	Header, Male, 3-pin, 6.35mm
J101	30-2510-01	Jack Header, w/Shield, RJ45 (Ethernet)
J102	30-2203-04	Header, Male, 4-Pin, 2 Rows, 2.5mm

WOZ 2.0 FTYBR RGB LED Bd, W1
15-0044-01





WOZ 2.0 FTYBR RGB LED Bd, W1
15-0044-01
Connector Pin-outs

J100 Power Input

J100-1	VIO	+4VDC from 7.5/4VDC Power Supply
J100-2	RED	+5VDC from Primary ATX Pwr Supply
J100-3	BLK	Ground from 7.5/4VDC Power Supply

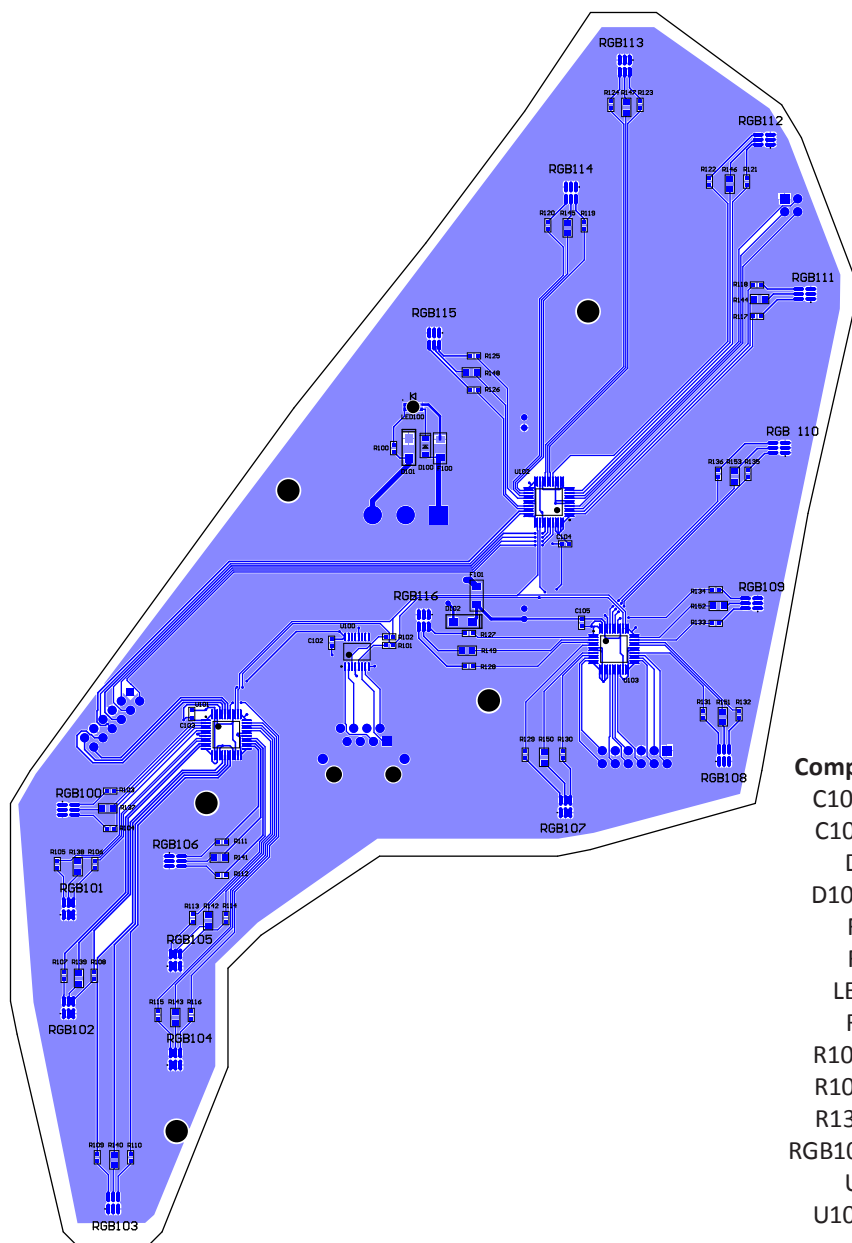
J101 UFM I2C Communications

CAT5 or higher Ethernet cable to Communications Hub Bd, J101

J102 RGB LED Control

J102-1	BLK	+4VDC to RGB GI Bd 21, J100-1
J102-2	BLK-GRN	RGB100 GRN return from RGB GI Bd 21, J100-2
J102-3	BLK-RED	RGB100 RED return from RGB GI Bd 21, J100-3
J102-4	BLK-BLU	RGB100 BLU return from RGB GI Bd 21, J100-4

Note: All RGB LED Board connections to J100 pass through an in-line connector mounted in back panel of Cabinet PCB Chassis Assembly.

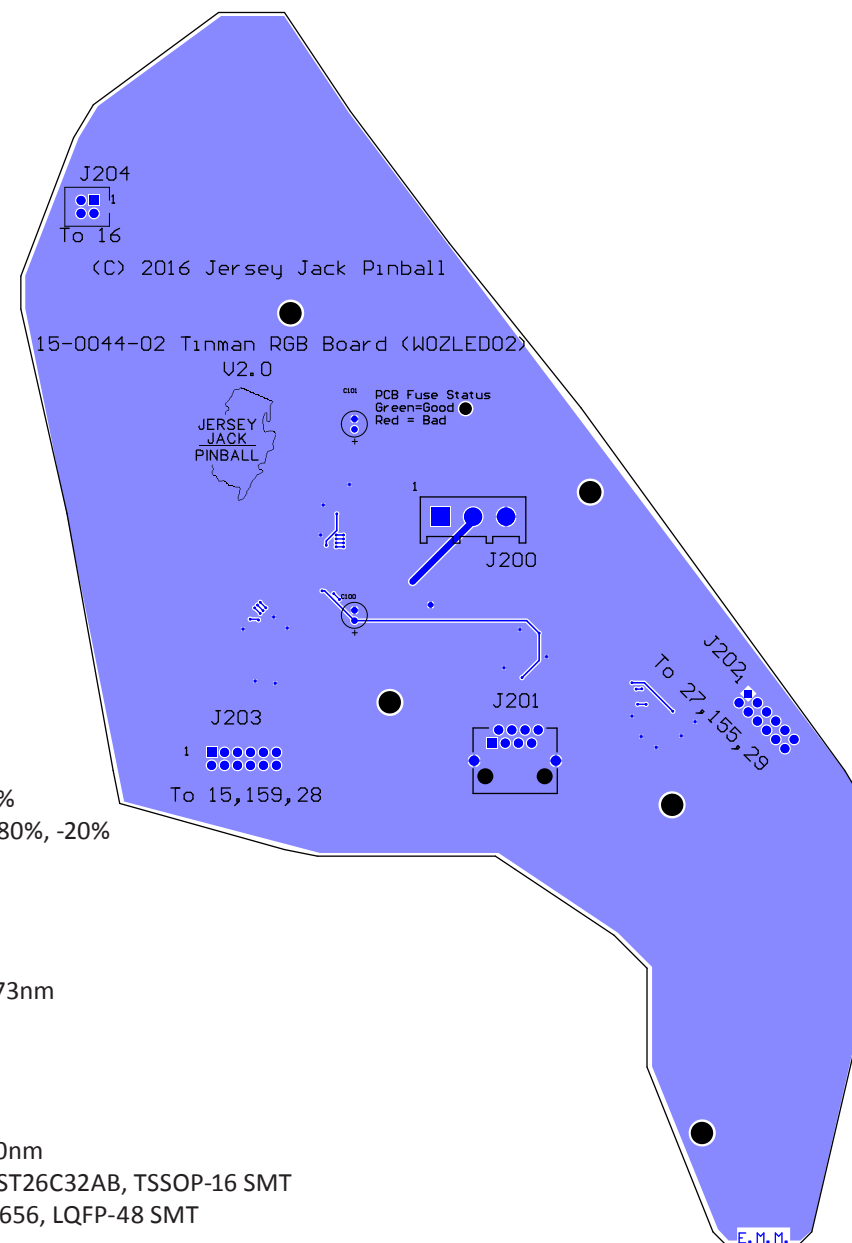


WOZ 2.0 Tin Man RGB LED Bd, W2

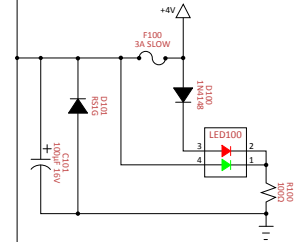
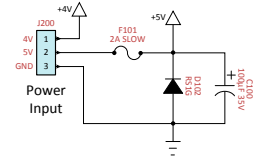
15-0044-02

(games manufactured on/after Dec 15, 2016)

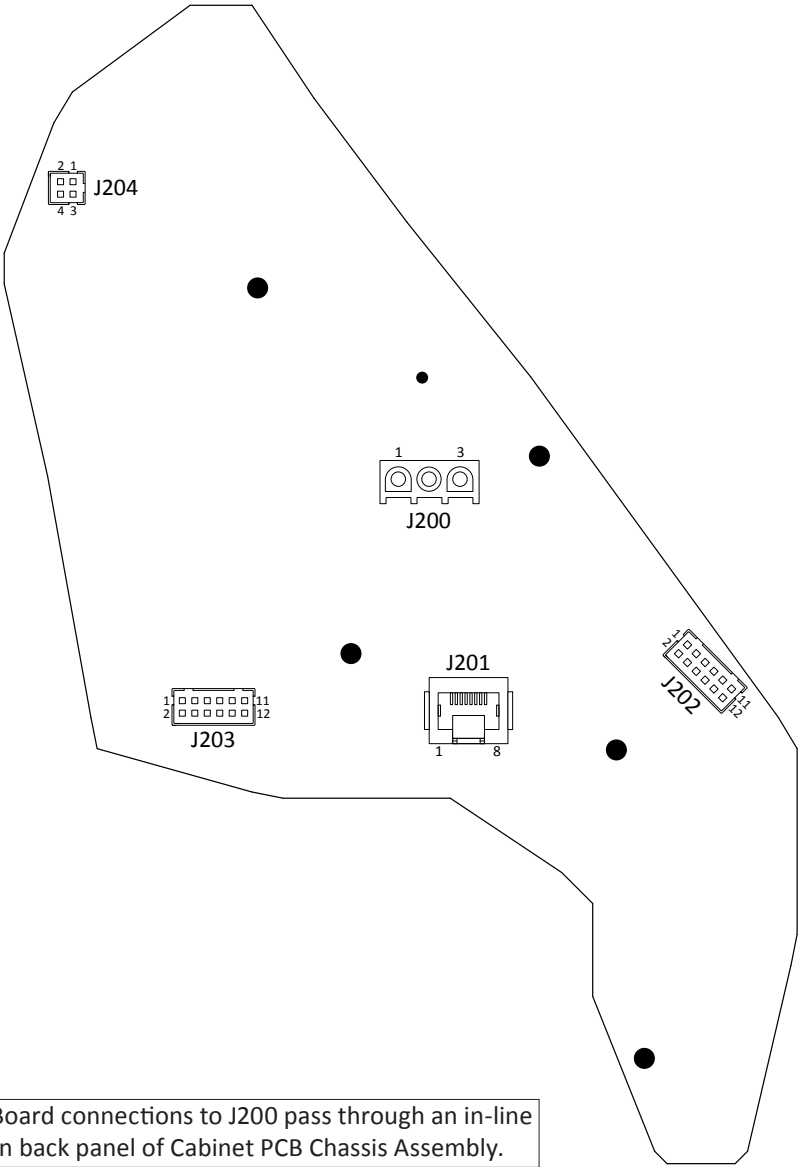
Component(s)	Part Number	Description
C100, C101	109-100M-016	Capacitor, Elect (Radial), 100μF, 16V, 20%
C102-C105	103-105Z-016	Capacitor, MLCC, 0603 SMT, 1μF, 16V, +80%, -20%
D100	110-1001-0S	Diode, 1N4148, SMT, 100V, 300mA
D101, D102	110-5001-0S	Diode, RS1G, SMT, 400V, 1A, 150ns
F100	170-6303-SS	Fuse, Slow, 1206 SMT, 3A, 63V
F101	170-6302-SS	Fuse, Slow, 1206 SMT, 2A, 63V
LED100	24-0024-0S	LED, SMD, Rev Mount, RED/GRN, 631/573nm
R100	122-0100-104	Resistor, 0603 SMT, 100Ω, 0.1W, 5%
R101, R102	122-51P1-102	Resistor, 0603 SMT, 51.1Ω, 0.1W, 1%
R103-R136	122-0018-102	Resistor, 0603 SMT, 18Ω, 0.1W, 1%
R137-R153	120-0075-122	Resistor, 0805 SMT, 75Ω, 0.125W, 1%
RGB100-RGB116	24-0016-00	LED, SMT, High-Power RGB, 624/527/470nm
U100	141-0020-0S	Quad Diff Line Rcvr w/3-State Outputs, ST26C32AB, TSSOP-16 SMT
U101-U103	140-0005-0S	LED Driver, I2C-Bus, 24-Bit, 5MHz, PCU9656, LQFP-48 SMT
J200	30-2005-03	Header, Male, 3-pin, 6.35mm
J201	30-2510-01	Jack Header, w/Shield, RJ45 (Ethernet)
J202, J203	30-2203-12	Header, Male, 12-Pin, 2 Rows, 2.5mm
J204	30-2203-04	Header, Male, 4-Pin, 2 Rows, 2.5mm



UFm I2C
Communications



WOZ 2.0 Tin Man RGB LED Bd, W2
15-0044-02
Connector Pin-outs



Note: All RGB LED Board connections to J200 pass through an in-line connector mounted in back panel of Cabinet PCB Chassis Assembly.

J200 Power Input

J200-1	VIO	+4VDC from 7.5/4VDC Power Supply
J200-2	RED	+5VDC from Primary ATX Pwr Supply
J200-3	BLK	Ground from 7.5/4VDC Power Supply

J201 UFM I2C Communications

CAT5 or higher Ethernet cable to Communications Hub Bd, J102

J202 RGB LED Control

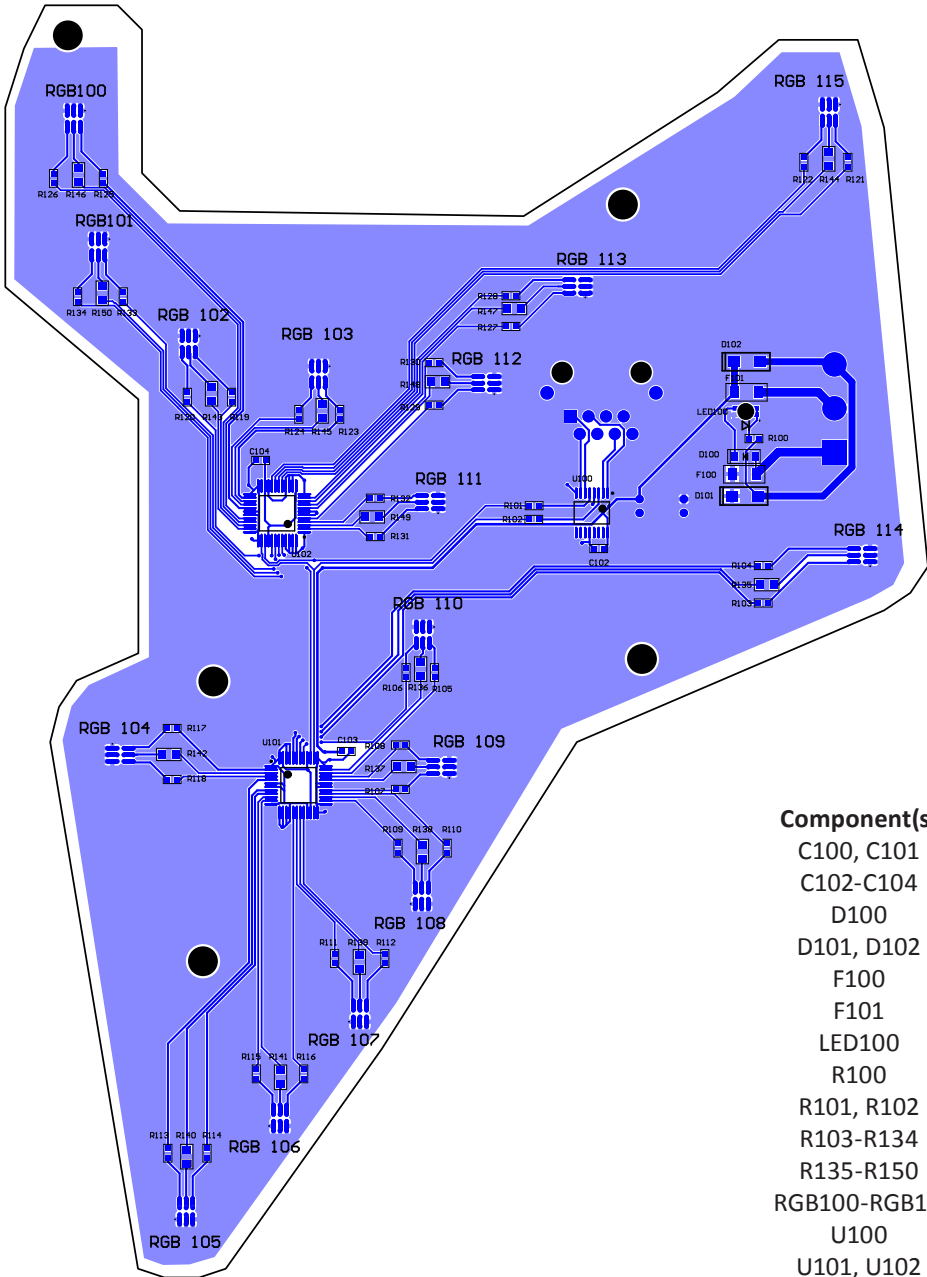
J202-1	BLK	+4VDC to Single RGB LED Bd 29, J100-1
J202-2	BLK-GRN	RGB100 GRN return from Single RGB LED Bd 29, J100-2
J202-3	BLK-RED	RGB100 RED return from Single RGB LED Bd 29, J100-3
J202-4	BLK-BLU	RGB100 BLU return from Single RGB LED Bd 29, J100-4
J202-5	BRN	+4VDC to Single RGB LED Bd 27, J100-1
J202-6	BRN-GRN	RGB100 GRN return from Single RGB LED Bd 27, J100-2
J202-7	BRN-RED	RGB100 RED return from Single RGB LED Bd 27, J100-3
J202-8	BRN-BLU	RGB100 BLU return from Single RGB LED Bd 27, J100-4
J202-9	RED	+4VDC to Single RGB LED Bd 155, J100-1
J202-10	RED-GRN	RGB100 GRN return from Single RGB LED Bd 155, J100-2
J202-11	RED-GRY	RGB100 RED return from Single RGB LED Bd 155, J100-3
J202-12	RED-BLU	RGB100 BLU return from Single RGB LED Bd 155, J100-4

J203 RGB LED Control

J203-1	YEL	+4VDC to RGB GI Bd 15, J100-1
J203-2	YEL-GRN	RGB100 GRN return from RGB GI Bd 15, J100-2
J203-3	YEL-RED	RGB100 RED return from RGB GI Bd 15, J100-3
J203-4	YEL-BLU	RGB100 BLU return from RGB GI Bd 15, J100-4
J203-5	GRN	+4VDC to Single RGB LED Bd 159, J100-1
J203-6	GRN-GRY	RGB100 GRN return from Single RGB LED Bd 159, J100-2
J203-7	GRN-RED	RGB100 RED return from Single RGB LED Bd 159, J100-3
J203-8	GRN-BLU	RGB100 BLU return from Single RGB LED Bd 159, J100-4
J203-9	BLU	+4VDC to Single RGB LED Bd 28, J100-1
J203-10	BLU-GRN	RGB100 GRN return from Single RGB LED Bd 28, J100-2
J203-11	BLU-RED	RGB100 RED return from Single RGB LED Bd 28, J100-3
J203-12	BLU-GRY	RGB100 BLU return from Single RGB LED Bd 28, J100-4

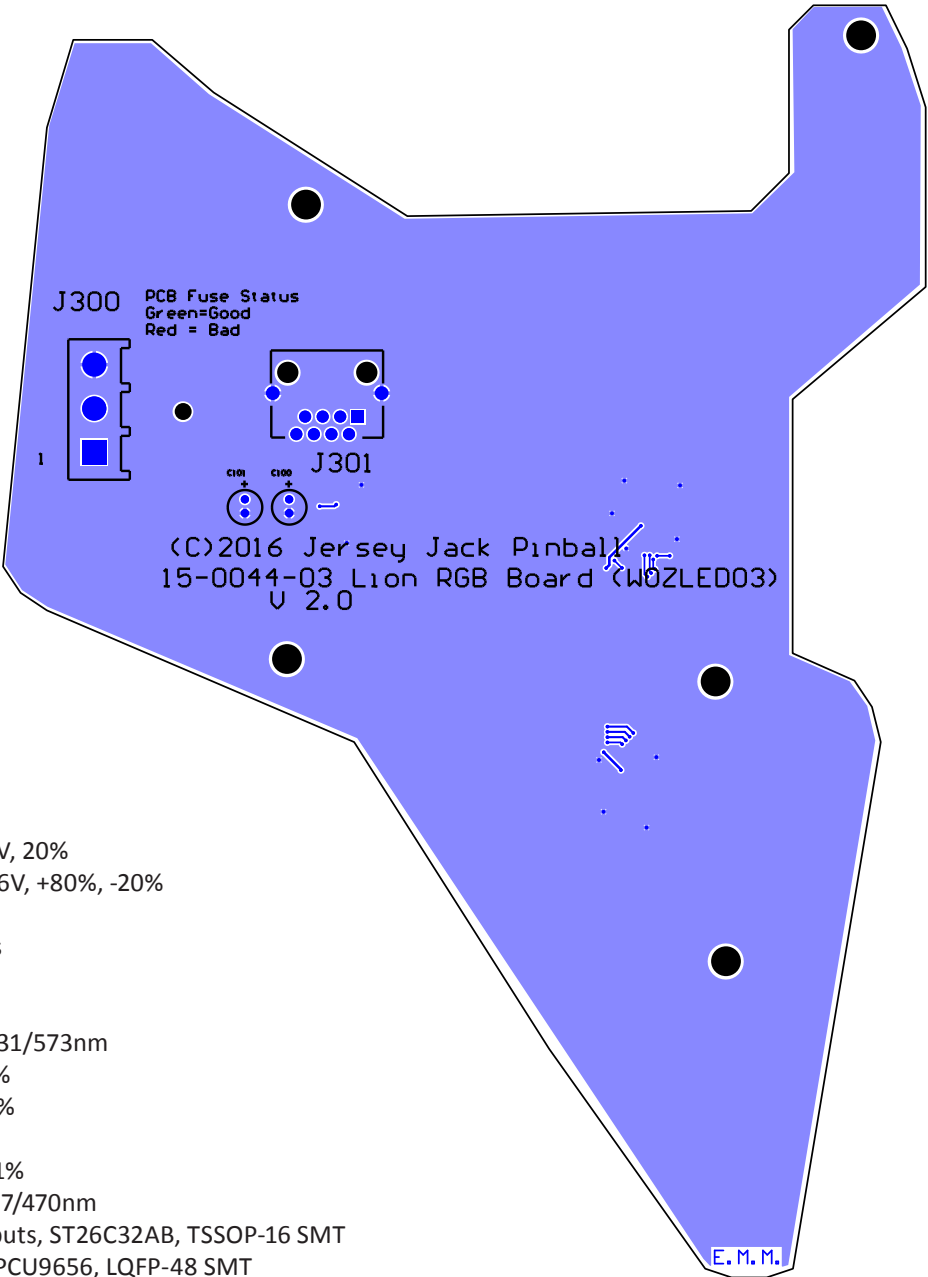
J204 RGB LED Control

J204-1	BLK	+4VDC to RGB GI Bd 16, J100-1
J204-2	BLK-GRN	RGB100 GRN return from RGB GI Bd 16, J100-2
J204-3	BLK-RED	RGB100 RED return from RGB GI Bd 16, J100-3
J204-4	BLK-BLU	RGB100 BLU return from RGB GI Bd 16, J100-4



WOZ 2.0 Lion RGB LED Bd, W3
15-0044-03
(games manufactured on/after Dec 15, 2016)

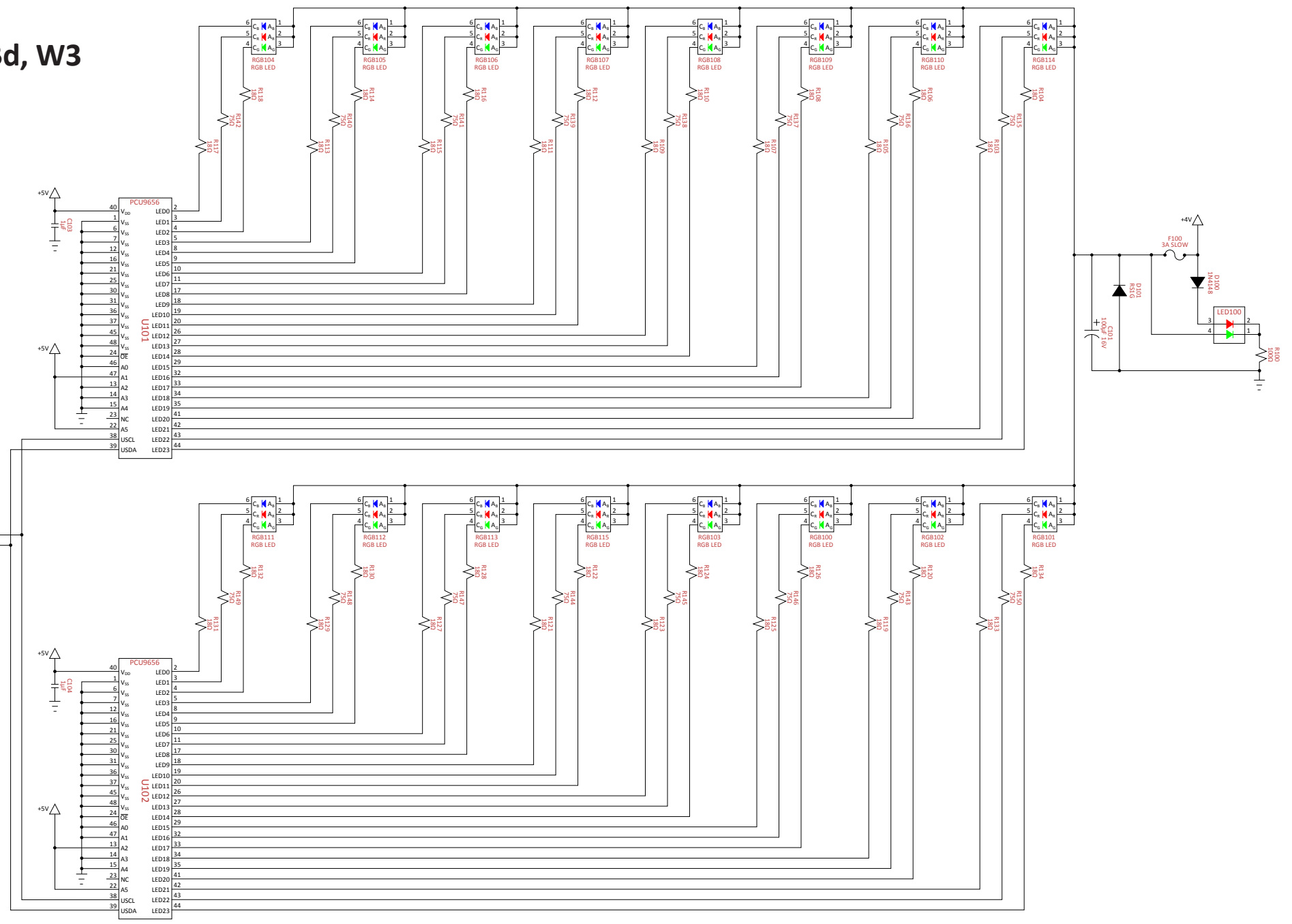
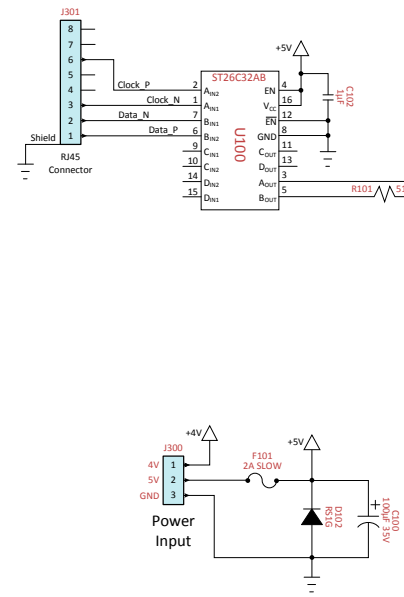
Component(s)	Part Number	Description
C100, C101	109-100M-016	Capacitor, Elect (Radial), 100μF, 16V, 20%
C102-C104	103-105Z-016	Capacitor, MLCC, 0603 SMT, 1μF, 16V, +80%, -20%
D100	110-1001-0S	Diode, 1N4148, SMT, 100V, 300mA
D101, D102	110-5001-0S	Diode, RS1G, SMT, 400V, 1A, 150ns
F100	170-6303-SS	Fuse, Slow, 1206 SMT, 3A, 63V
F101	170-6302-SS	Fuse, Slow, 1206 SMT, 2A, 63V
LED100	24-0024-0S	LED, SMD, Rev Mount, RED/GRN, 631/573nm
R100	122-0100-104	Resistor, 0603 SMT, 100Ω, 0.1W, 5%
R101, R102	122-51P1-102	Resistor, 0603 SMT, 51.1Ω, 0.1W, 1%
R103-R134	122-0018-102	Resistor, 0603 SMT, 18Ω, 0.1W, 1%
R135-R150	120-0075-122	Resistor, 0805 SMT, 75Ω, 0.125W, 1%
RGB100-RGB115	24-0016-00	LED, SMT, High-Power RGB, 624/527/470nm
U100	141-0020-0S	Quad Diff Line Rcvr w/3-State Outputs, ST26C32AB, TSSOP-16 SMT
U101, U102	140-0005-0S	LED Driver, I2C-Bus, 24-Bit, 5MHz, PCU9656, LQFP-48 SMT
J300	30-2005-03	Header, Male, 3-pin, 6.35mm
J301	30-2510-01	Jack Header, w/Shield, RJ45 (Ethernet)

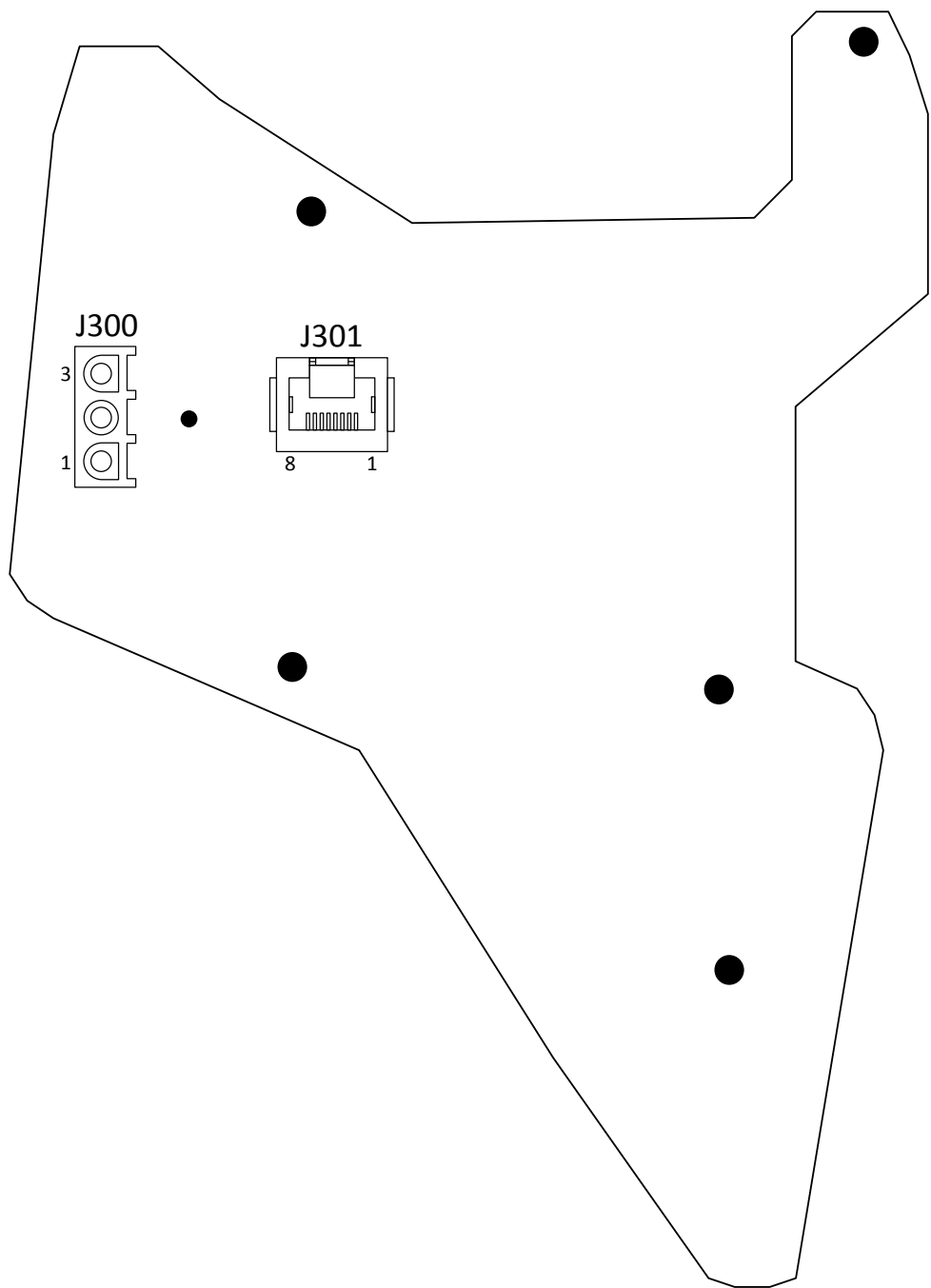


WOZ 2.0 Lion RGB LED Bd, W3

15-0044-03

UFm I2C
Communications





WOZ 2.0 Lion RGB LED Bd, W3
15-0044-03
Connector Pin-outs

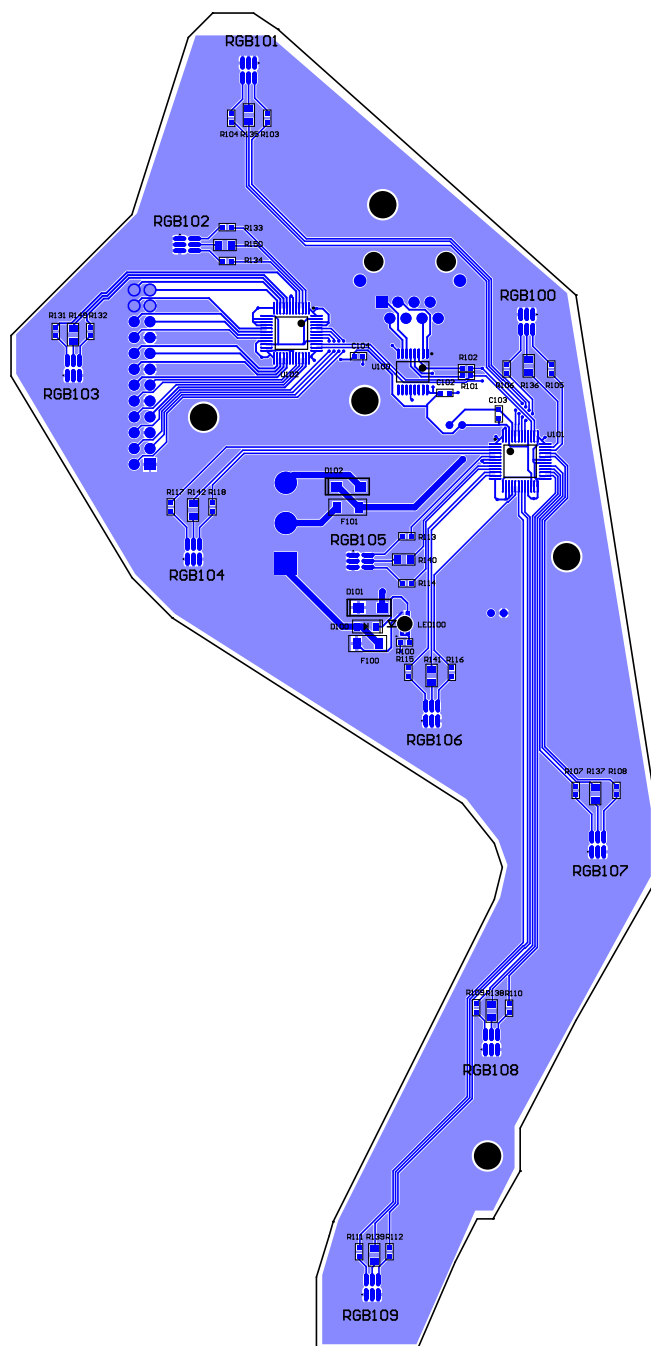
J300 Power Input

J300-1	VIO	+4VDC from 7.5/4VDC Power Supply
J300-2	RED	+5VDC from Primary ATX Pwr Supply
J300-3	BLK	Ground from 7.5/4VDC Power Supply

J301 UFM I2C Communications

CAT5 or higher Ethernet cable to Communications Hub Bd, J103

Note: All RGB LED Board connections to J300 pass through an in-line connector mounted in back panel of Cabinet PCB Chassis Assembly.

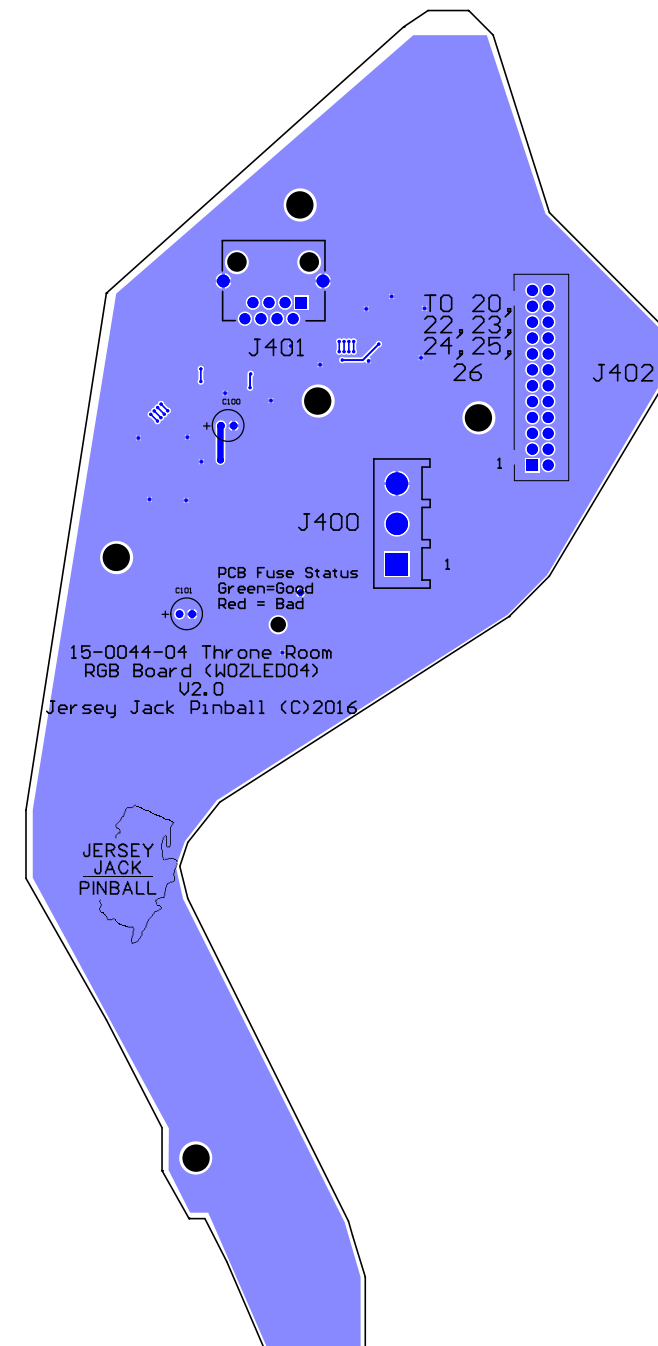


WOZ 2.0 Throne Room RGB LED Bd, W4

15-0044-04

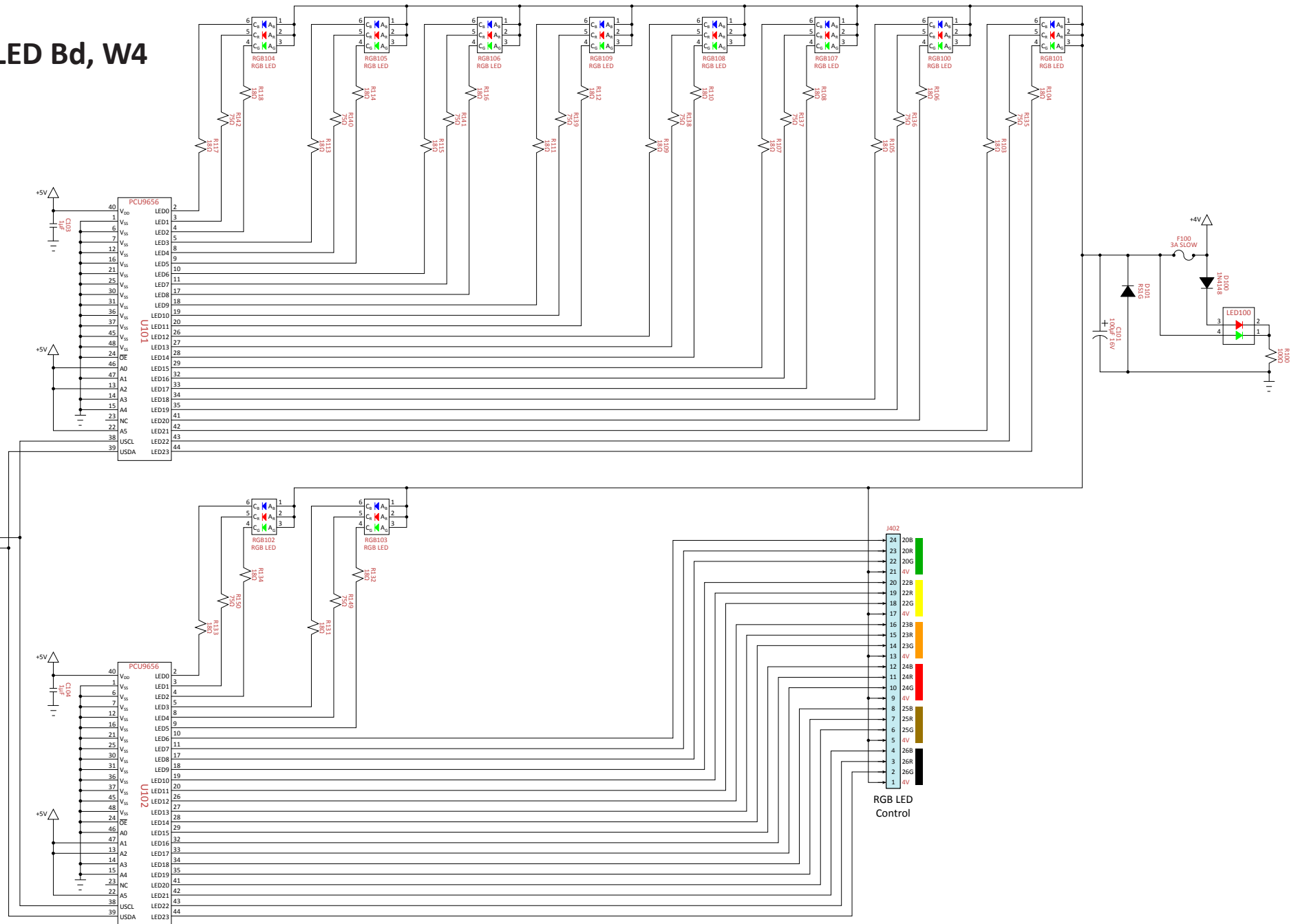
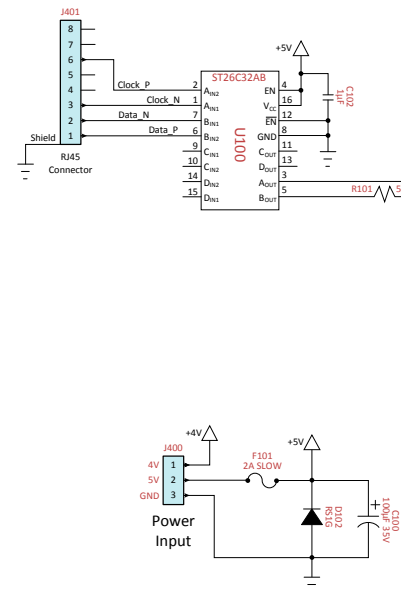
(games manufactured on/after Dec 15, 2016)

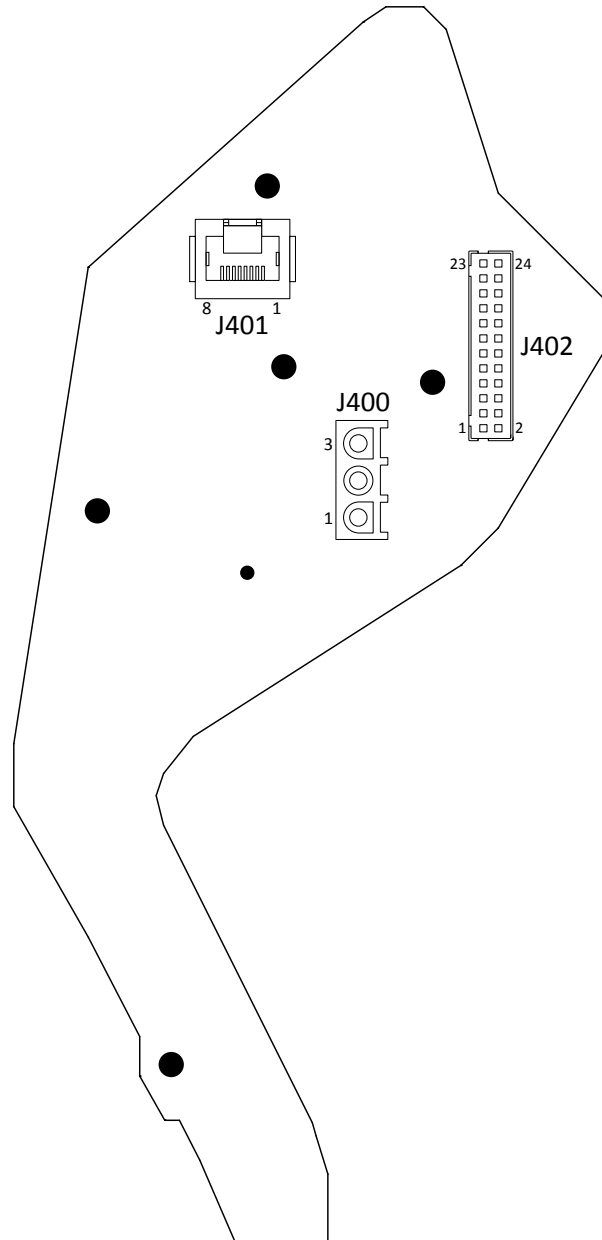
Component(s)	Part Number	Description
C100, C101	109-100M-016	Capacitor, Elect (Radial), 100μF, 16V, 20%
C102-C104	103-105Z-016	Capacitor, MLCC, 0603 SMT, 1μF, 16V, +80%, -20%
D100	110-1001-0S	Diode, 1N4148, SMT, 100V, 300mA
D101, D102	110-5001-0S	Diode, RS1G, SMT, 400V, 1A, 150ns
F100	170-6303-SS	Fuse, Slow, 1206 SMT, 3A, 63V
F101	170-6302-SS	Fuse, Slow, 1206 SMT, 2A, 63V
LED100	24-0024-0S	LED, SMD, Rev Mount, RED/GRN, 631/573nm
R100	122-0100-104	Resistor, 0603 SMT, 100Ω, 0.1W, 5%
R101, R102	122-51P1-102	Resistor, 0603 SMT, 51.1Ω, 0.1W, 1%
R103-R118,		
R131-R134	122-0018-102	Resistor, 0603 SMT, 18Ω, 0.1W, 1%
R135-R142,		
R149, R150	120-0075-122	Resistor, 0805 SMT, 75Ω, 0.125W, 1%
RGB100-RGB109	24-0016-00	LED, SMT, High-Power RGB, 624/527/470nm
U100	141-0020-0S	Quad Diff Line Rcvr w/3-State Outputs, ST26C32AB, TSSOP-16 SMT
U101, U102	140-0005-0S	LED Driver, I2C-Bus, 24-Bit, 5MHz, PCU9656, LQFP-48 SMT
J400	30-2005-03	Header, Male, 3-pin, 6.35mm
J401	30-2510-01	Jack Header, w/Shield, RJ45 (Ethernet)
J402	30-2203-24	Header, Male, 24-Pin, 2 Rows, 2.5mm



WOZ 2.0 Throne Room RGB LED Bd, W4 15-0044-04

UFm I2C Communications





Note: All RGB LED Board connections to J400 pass through an in-line connector mounted in back panel of Cabinet PCB Chassis Assembly.

WOZ 2.0 Throne Room RGB LED Bd, W4

15-0044-04

Connector Pin-outs

J400 Power Input

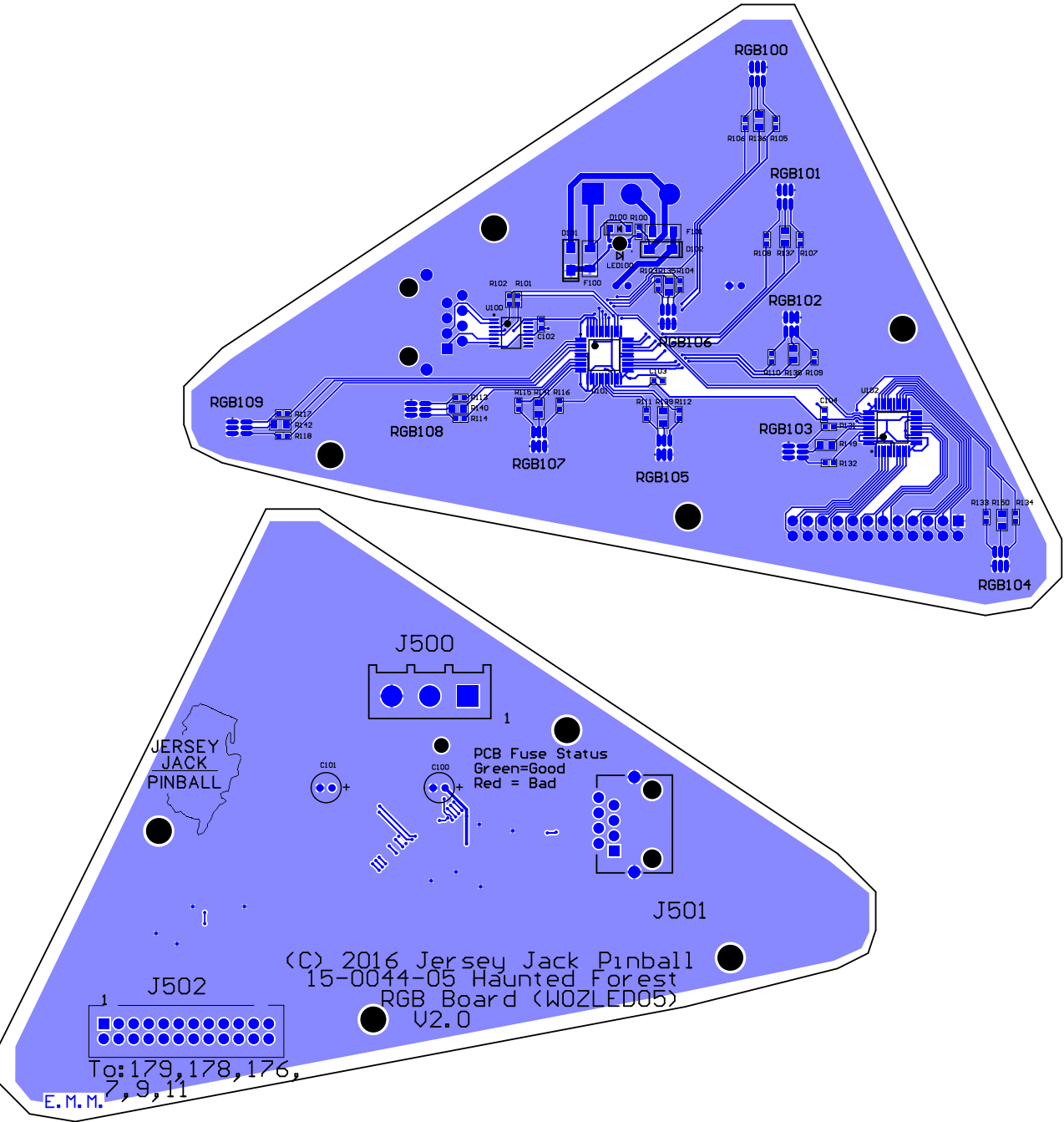
J400-1	VIO	+4VDC from 7.5/4VDC Power Supply
J400-2	RED	+5VDC from Primary ATX Pwr Supply
J400-3	BLK	Ground from 7.5/4VDC Power Supply

J401 UFM I2C Communications

CAT5 or higher Ethernet cable to Communications Hub Bd, J104

J402 RGB LED Control

J402-1	BLK	+4VDC to RGB GI Bd 26, J100-1
J402-2	BLK-GRN	RGB100 GRN return from RGB GI Bd 26, J100-2
J402-3	BLK-RED	RGB100 RED return from RGB GI Bd 26, J100-3
J402-4	BLK-BLU	RGB100 BLU return from RGB GI Bd 26, J100-4
J402-5	BRN	+4VDC to Single RGB LED Bd 25, J100-1
J402-6	BRN-GRN	RGB100 GRN return from Single RGB LED Bd 25, J100-2
J402-7	BRN-RED	RGB100 RED return from Single RGB LED Bd 25, J100-3
J402-8	BRN-BLU	RGB100 BLU return from Single RGB LED Bd 25, J100-4
J402-9	RED	+4VDC to Single RGB LED Bd 24, J100-1
J402-10	RED-GRN	RGB100 GRN return from Single RGB LED Bd 24, J100-2
J402-11	RED-GRY	RGB100 RED return from Single RGB LED Bd 24, J100-3
J402-12	RED-BLU	RGB100 BLU return from Single RGB LED Bd 24, J100-4
J402-13	ORN	+4VDC to Single RGB LED Bd 23, J100-1
J402-14	ORN-GRN	RGB100 GRN return from Single RGB LED Bd 23, J100-2
J402-15	ORN-RED	RGB100 RED return from Single RGB LED Bd 23, J100-3
J402-16	ORN-BLU	RGB100 BLU return from Single RGB LED Bd 23, J100-4
J402-17	YEL	+4VDC to Single RGB LED Bd 22, J100-1
J402-18	YEL-GRN	RGB100 GRN return from Single RGB LED Bd 22, J100-2
J402-19	YEL-RED	RGB100 RED return from Single RGB LED Bd 22, J100-3
J402-20	YEL-BLU	RGB100 BLU return from Single RGB LED Bd 22, J100-4
J402-21	GRN	+4VDC to RGB GI Bd 20, J100-1
J402-22	GRN-GRY	RGB100 GRN return from RGB GI Bd 20, J100-2
J402-23	GRN-RED	RGB100 RED return from RGB GI Bd 20, J100-3
J402-24	GRN-BLU	RGB100 BLU return from RGB GI Bd 20, J100-4



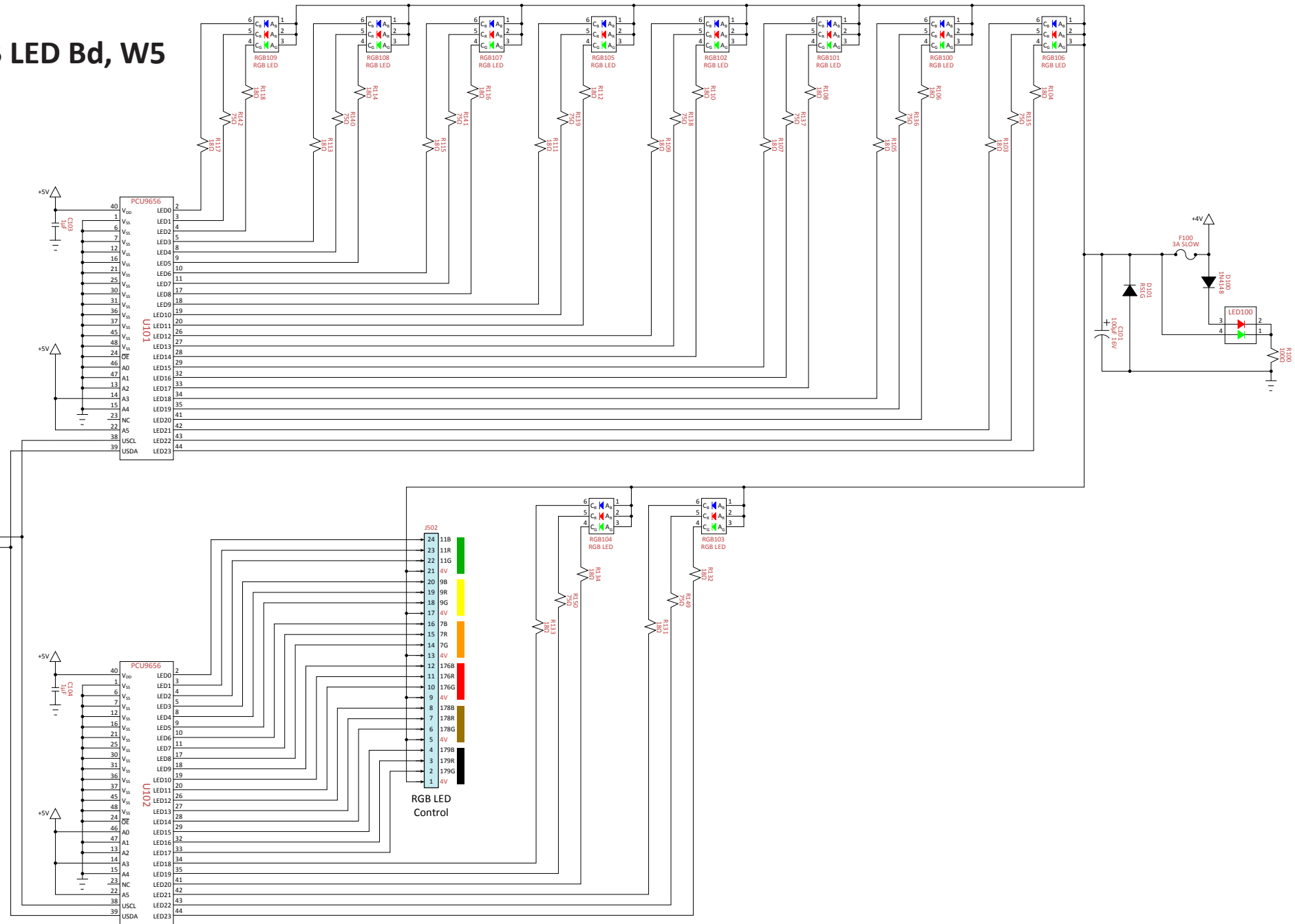
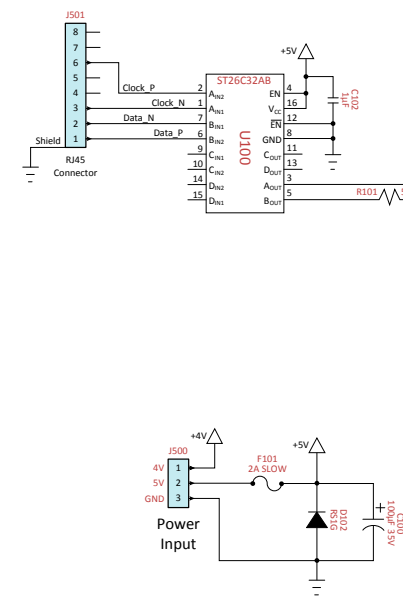
WOZ 2.0 Haunted Forest RGB LED Bd, W5
15-0044-05
(games manufactured on/after Dec 15, 2016)

Component(s)	Part Number	Description
C100, C101	109-100M-016	Capacitor, Elect (Radial), 100μF, 16V, 20%
C102-C104	103-105Z-016	Capacitor, MLCC, 0603 SMT, 1μF, 16V, +80%, -20%
D100	110-1001-0S	Diode, 1N4148, SMT, 100V, 300mA
D101, D102	110-5001-0S	Diode, RS1G, SMT, 400V, 1A, 150ns
F100	170-6303-SS	Fuse, Slow, 1206 SMT, 3A, 63V
F101	170-6302-SS	Fuse, Slow, 1206 SMT, 2A, 63V
LED100	24-0024-0S	LED, SMD, Rev Mount, RED/GRN, 631/573nm
R100	122-0100-104	Resistor, 0603 SMT, 100Ω, 0.1W, 5%
R101, R102	122-51P1-102	Resistor, 0603 SMT, 51.1Ω, 0.1W, 1%
R103-R118, R131-R134	122-0018-102	Resistor, 0603 SMT, 18Ω, 0.1W, 1%
R135-R142, R149, R150	120-0075-122	Resistor, 0805 SMT, 75Ω, 0.125W, 1%
RGB100-RGB109	24-0016-00	LED, SMT, High-Power RGB, 624/527/470nm
U100	141-0020-0S	Quad Diff Line Rcvr w/3-State Outputs, ST26C32AB, TSSOP-16 SMT
U101, U102	140-0005-0S	LED Driver, I2C-Bus, 24-Bit, 5MHz, PCU9656, LQFP-48 SMT
J500	30-2005-03	Header, Male, 3-pin, 6.35mm
J501	30-2510-01	Jack Header, w/Shield, RJ45 (Ethernet)
J502	30-2203-24	Header, Male, 24-Pin, 2 Rows, 2.5mm

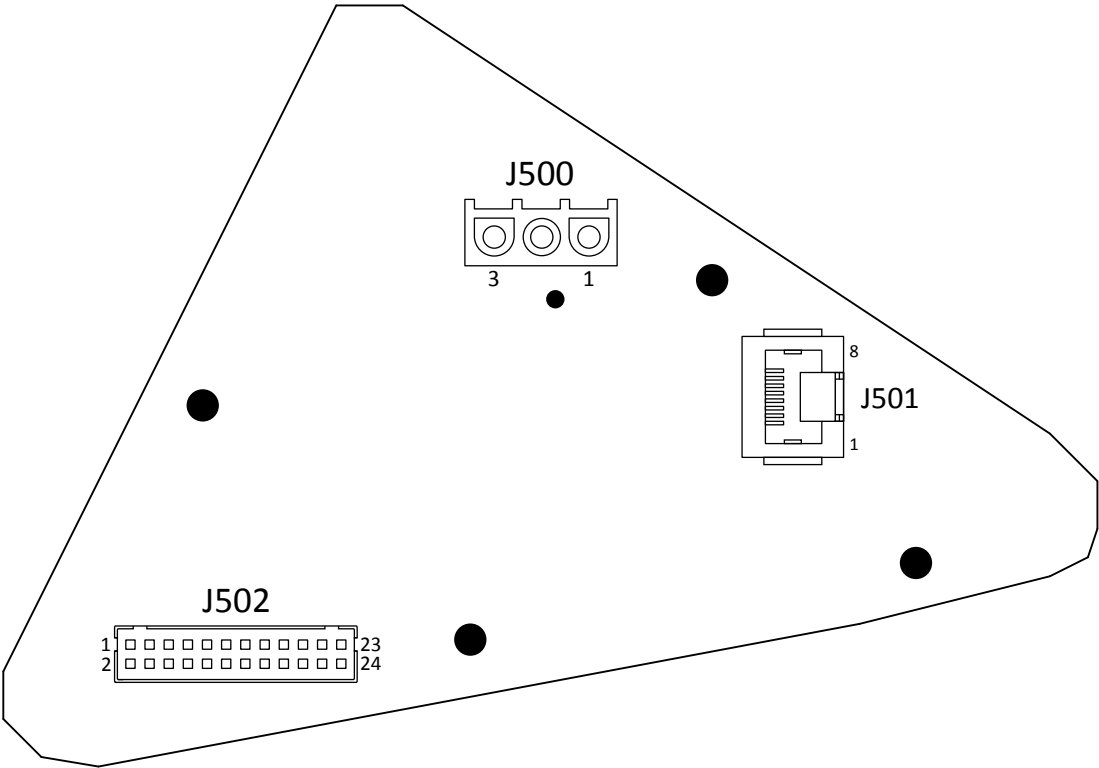
WOZ 2.0 Haunted Forest RGB LED Bd, W5

15-0044-05

UFm I2C
Communications



WOZ 2.0 Haunted Forest RGB LED Bd, W5
15-0044-05
Connector Pin-outs



Note: All RGB LED Board connections to J500 pass through an in-line connector mounted in back panel of Cabinet PCB Chassis Assembly.

J500 Power Input

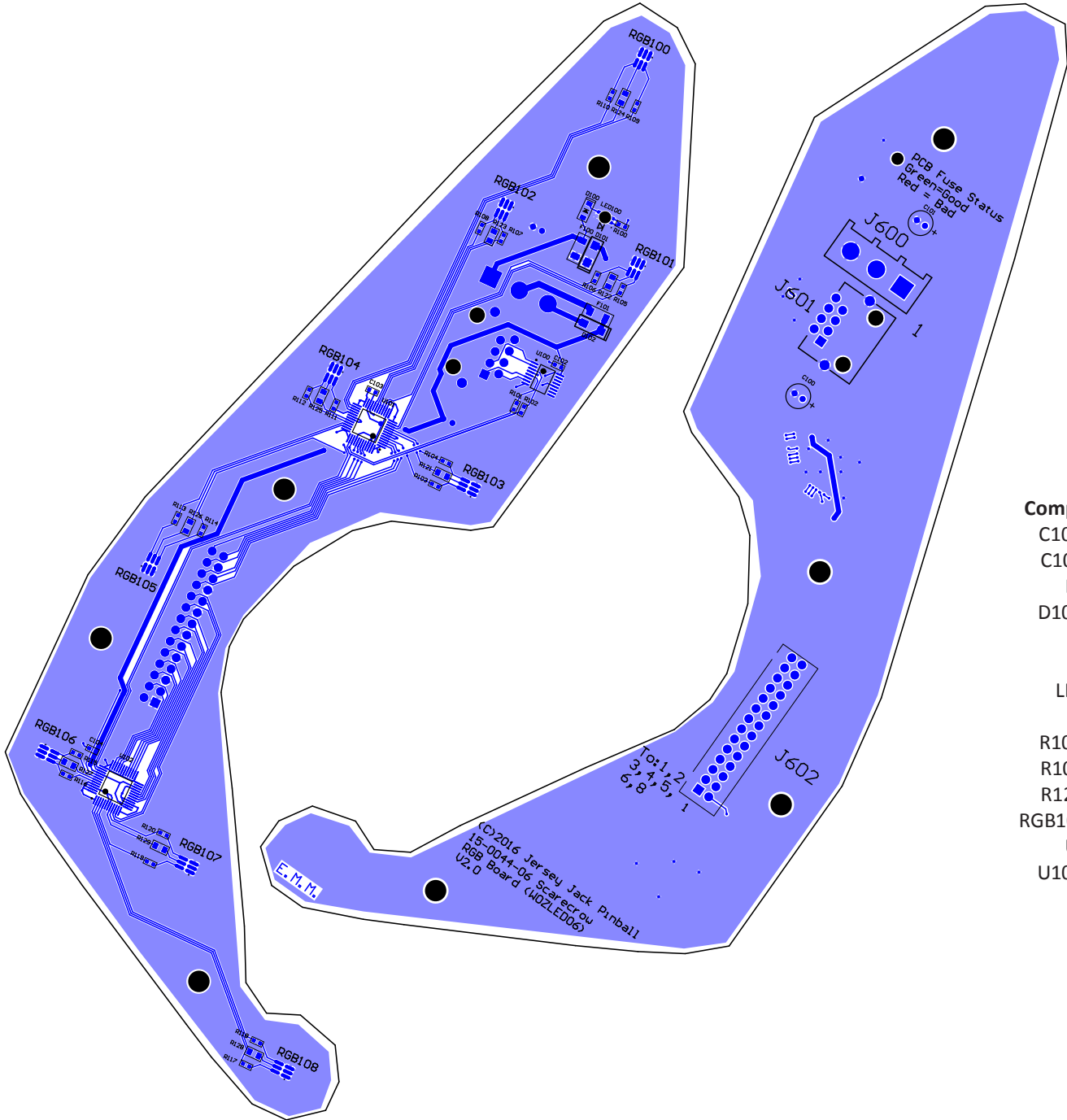
J500-1	VIO	+4VDC from 7.5/4VDC Power Supply
J500-2	RED	+5VDC from Primary ATX Pwr Supply
J500-3	BLK	Ground from 7.5/4VDC Power Supply

J501 UFM I2C Communications

CAT5 or higher Ethernet cable to Communications Hub Bd, J105

J502 RGB LED Control

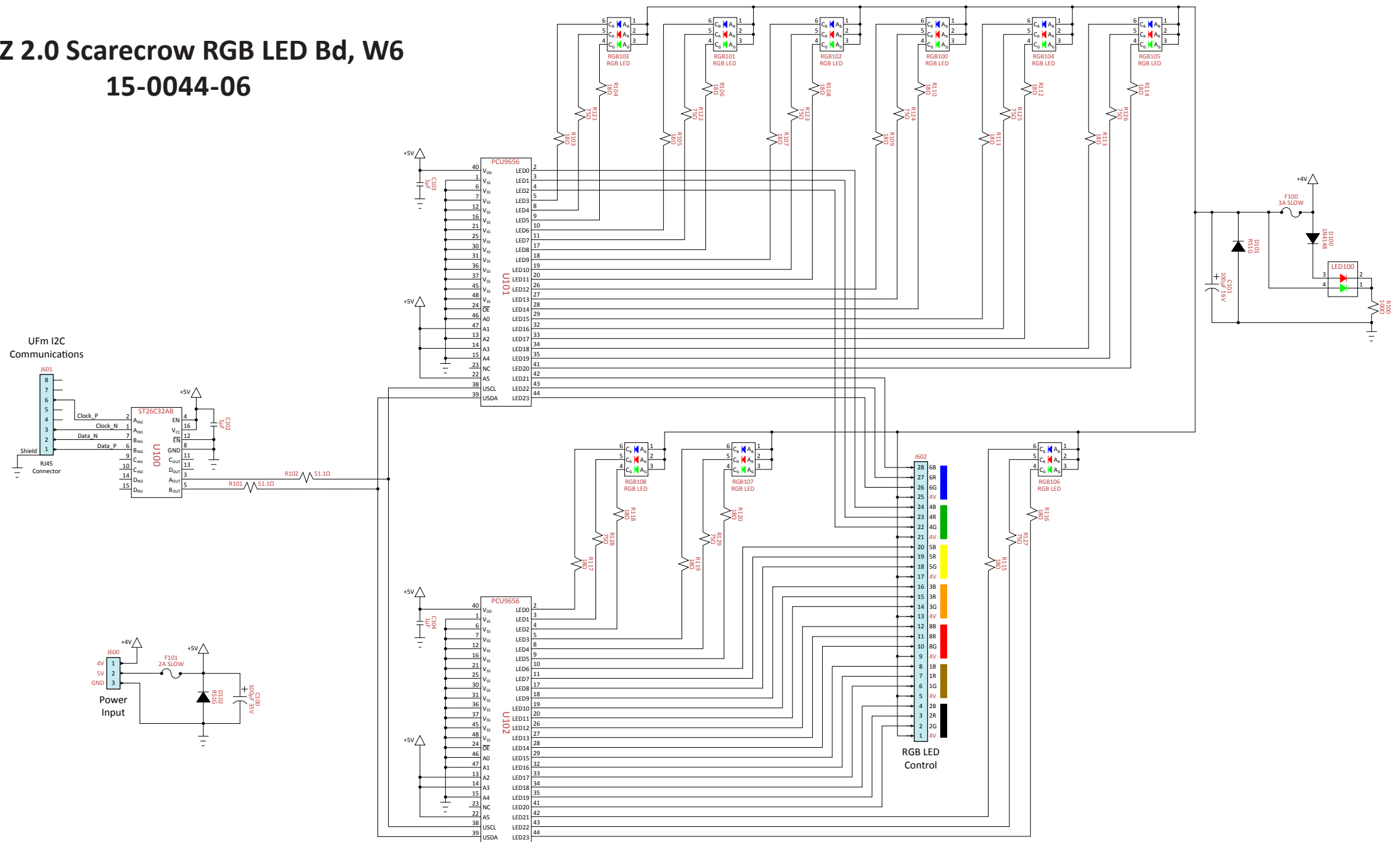
J502-1	BLK	+4VDC to RGB GI Bd 179, J100-1
J502-2	BLK-GRN	RGB100 GRN return from RGB GI Bd 179, J100-2
J502-3	BLK-RED	RGB100 RED return from RGB GI Bd 179, J100-3
J502-4	BLK-BLU	RGB100 BLU return from RGB GI Bd 179, J100-4
J502-5	BRN	+4VDC to Single RGB LED Bd 178, J100-1
J502-6	BRN-GRN	RGB100 GRN return from Single RGB LED Bd 178, J100-2
J502-7	BRN-RED	RGB100 RED return from Single RGB LED Bd 178, J100-3
J502-8	BRN-BLU	RGB100 BLU return from Single RGB LED Bd 178, J100-4
J502-9	RED	+4VDC to Single RGB LED Bd 176, J100-1
J502-10	RED-GRN	RGB100 GRN return from Single RGB LED Bd 176, J100-2
J502-11	RED-GRY	RGB100 RED return from Single RGB LED Bd 176, J100-3
J502-12	RED-BLU	RGB100 BLU return from Single RGB LED Bd 176, J100-4
J502-13	ORN	+4VDC to RGB GI Bd 7, J100-1
J502-14	ORN-GRN	RGB100 GRN return from RGB GI Bd 7, J100-2
J502-15	ORN-RED	RGB100 RED return from RGB GI Bd 7, J100-3
J502-16	ORN-BLU	RGB100 BLU return from RGB GI Bd 7, J100-4
J502-17	YEL	+4VDC to RGB GI Bd 9, J100-1
J502-18	YEL-GRN	RGB100 GRN return from RGB GI Bd 9, J100-2
J502-19	YEL-RED	RGB100 RED return from RGB GI Bd 9, J100-3
J502-20	YEL-BLU	RGB100 BLU return from RGB GI Bd 9, J100-4
J502-21	GRN	+4VDC to Single RGB LED Bd 11, J100-1
J502-22	GRN-GRY	RGB100 GRN return from Single RGB LED Bd 11, J100-2
J502-23	GRN-RED	RGB100 RED return from Single RGB LED Bd 11, J100-3
J502-24	GRN-BLU	RGB100 BLU return from Single RGB LED Bd 11, J100-4

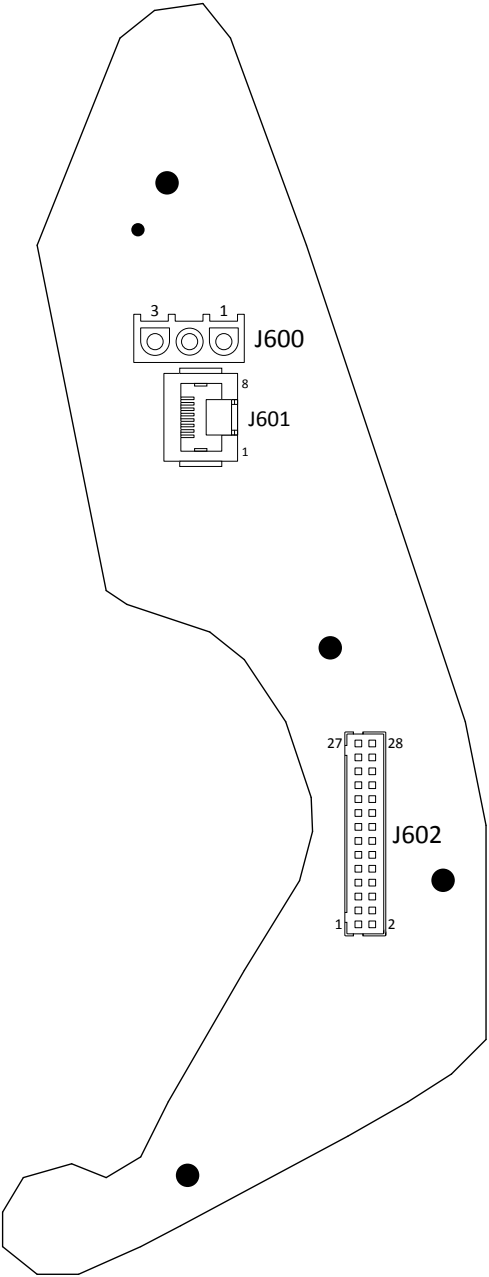


WOZ 2.0 Scarecrow RGB LED Bd, W6
15-0044-06
(games manufactured on/after Dec 15, 2016)

Component(s)	Part Number	Description
C100, C101	109-100M-016	Capacitor, Elect (Radial), 100µF, 16V, 20%
C102-C104	103-105Z-016	Capacitor, MLCC, 0603 SMT, 1µF, 16V, +80%, -20%
D100	110-1001-0S	Diode, 1N4148, SMT, 100V, 300mA
D101, D102	110-5001-0S	Diode, RS1G, SMT, 400V, 1A, 150ns
F100	170-6303-SS	Fuse, Slow, 1206 SMT, 3A, 63V
F101	170-6302-SS	Fuse, Slow, 1206 SMT, 2A, 63V
LED100	24-0024-0S	LED, SMD, Rev Mount, RED/GRN, 631/573nm
R100	122-0100-104	Resistor, 0603 SMT, 100Ω, 0.1W, 5%
R101, R102	122-51P1-102	Resistor, 0603 SMT, 51.1Ω, 0.1W, 1%
R103-R120	122-0018-102	Resistor, 0603 SMT, 18Ω, 0.1W, 1%
R121-R129	120-0075-122	Resistor, 0805 SMT, 75Ω, 0.125W, 1%
RGB100-108	24-0016-00	LED, SMT, High-Power RGB, 624/527/470nm
U100	141-0020-0S	Quad Diff Line Rcvr w/3-State Outputs, ST26C32AB, TSSOP-16 SMT
U101, U102	140-0005-0S	LED Driver, I2C-Bus, 24-Bit, 5MHz, PCU9656, LQFP-48 SMT
J600	30-2005-03	Header, Male, 3-pin, 6.35mm
J601	30-2510-01	Jack Header, w/Shield, RJ45 (Ethernet)
J602	30-2203-28	Header, Male, 28-Pin, 2 Rows, 2.5mm

WOZ 2.0 Scarecrow RGB LED Bd, W6 15-0044-06





Note: All RGB LED Board connections to J600 pass through an in-line connector mounted in back panel of Cabinet PCB Chassis Assembly.

WOZ 2.0 Scarecrow RGB LED Bd, W6
15-0044-06
Connector Pin-outs

J600 Power Input

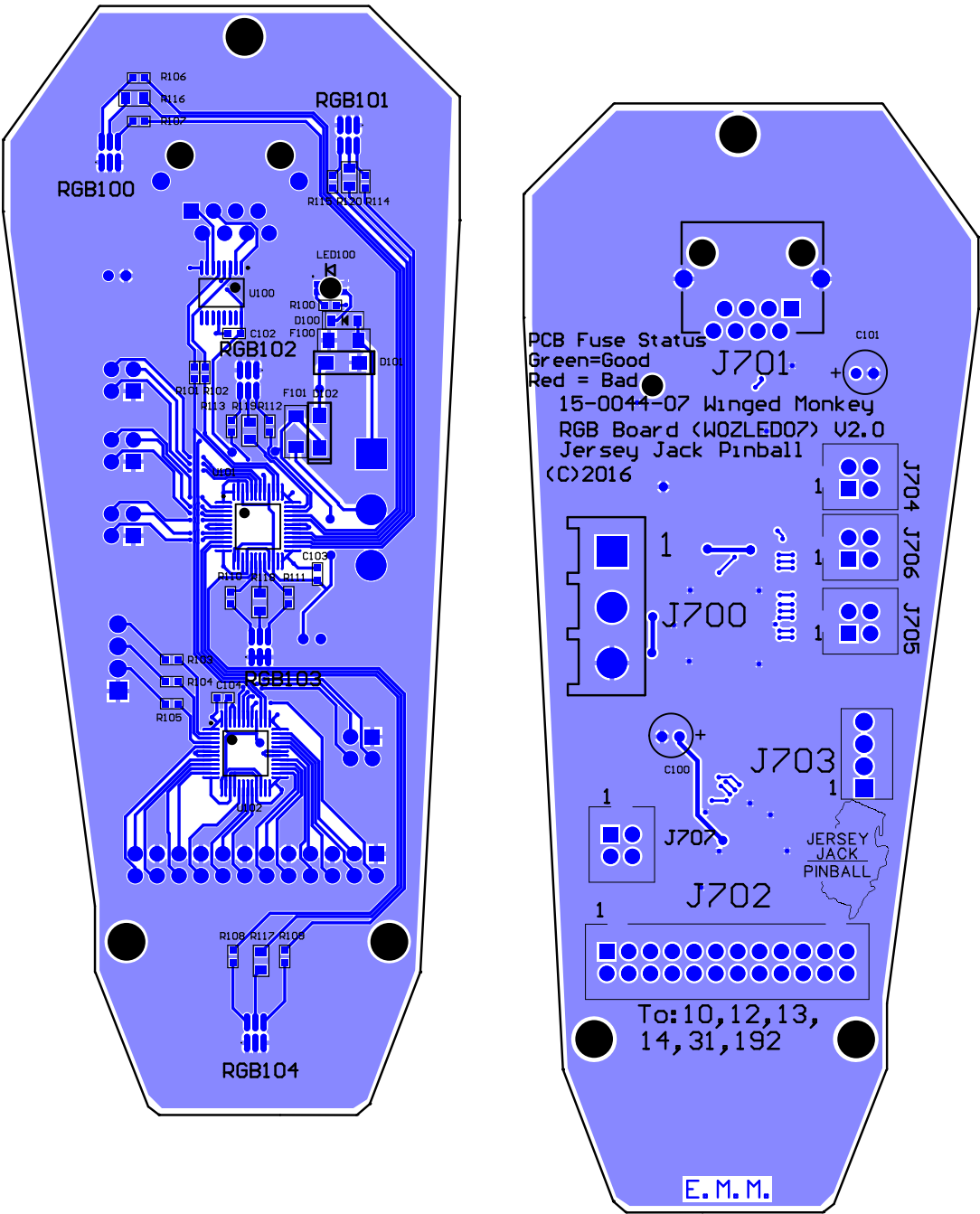
J600-1	VIO	+4VDC from 7.5/4VDC Power Supply
J600-2	RED	+5VDC from Primary ATX Pwr Supply
J600-3	BLK	Ground from 7.5/4VDC Power Supply

J601 UFM I2C Communications

CAT5 or higher Ethernet cable to Communications Hub Bd, J106

J602 RGB LED Control

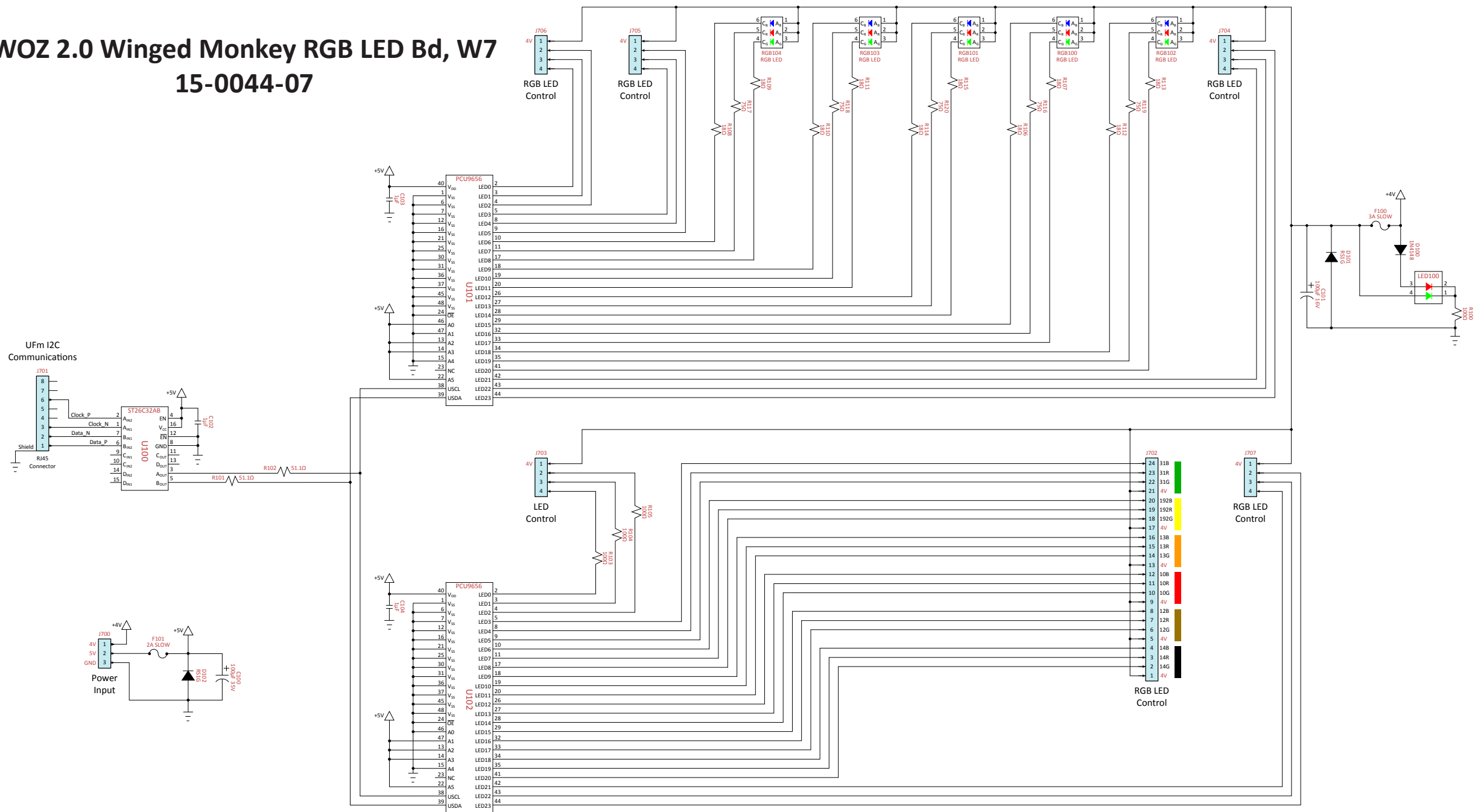
J602-1	BLK	+4VDC to RGB GI Bd 2, J100-1
J602-2	BLK-GRN	RGB100 GRN return from RGB GI Bd 2, J100-2
J602-3	BLK-RED	RGB100 RED return from RGB GI Bd 2, J100-3
J602-4	BLK-BLU	RGB100 BLU return from RGB GI Bd 2, J100-4
J602-5	BRN	+4VDC to RGB GI Bd 1, J100-1
J602-6	BRN-GRN	RGB100 GRN return from RGB GI Bd 1, J100-2
J602-7	BRN-RED	RGB100 RED return from RGB GI Bd 1, J100-3
J602-8	BRN-BLU	RGB100 BLU return from RGB GI Bd 1, J100-4
J602-9	RED	+4VDC to RGB GI Bd 8, J100-1
J602-10	RED-GRN	RGB100 GRN return from RGB GI Bd 8, J100-2
J602-11	RED-GRY	RGB100 RED return from RGB GI Bd 8, J100-3
J602-12	RED-BLU	RGB100 BLU return from RGB GI Bd 8, J100-4
J602-13	ORN	+4VDC to RGB GI Bd 3, J100-1
J602-14	ORN-GRN	RGB100 GRN return from RGB GI Bd 3, J100-2
J602-15	ORN-RED	RGB100 RED return from RGB GI Bd 3, J100-3
J602-16	ORN-BLU	RGB100 BLU return from RGB GI Bd 3, J100-4
J602-17	YEL	+4VDC to RGB GI Bd 5, J100-1
J602-18	YEL-GRN	RGB100 GRN return from RGB GI Bd 5, J100-2
J602-19	YEL-RED	RGB100 RED return from RGB GI Bd 5, J100-3
J602-20	YEL-BLU	RGB100 BLU return from RGB GI Bd 5, J100-4
J602-21	GRN	+4VDC to RGB GI Bd 4, J100-1
J602-22	GRN-GRY	RGB100 GRN return from RGB GI Bd 4, J100-2
J602-23	GRN-RED	RGB100 RED return from RGB GI Bd 4, J100-3
J602-24	GRN-BLU	RGB100 BLU return from RGB GI Bd 4, J100-4
J602-25	BLU	+4VDC to RGB GI Bd 6, J100-1
J602-26	BLU-GRN	RGB100 GRN return from RGB GI Bd 6, J100-2
J602-27	BLU-RED	RGB100 RED return from RGB GI Bd 6, J100-3
J602-28	BLU-GRY	RGB100 BLU return from RGB GI Bd 6, J100-4



WOZ 2.0 Winged Monkey RGB LED Bd, W7
15-0044-07
(games manufactured on/after Dec 15, 2016)

Component(s)	Part Number	Description
C100, C101	109-100M-016	Capacitor, Elect (Radial), 100µF, 16V, 20%
C102-C104	103-105Z-016	Capacitor, MLCC, 0603 SMT, 1µF, 16V, +80%, -20%
D100	110-1001-0S	Diode, 1N4148, SMT, 100V, 300mA
D101, D102	110-5001-0S	Diode, RS1G, SMT, 400V, 1A, 150ns
F100	170-6303-SS	Fuse, Slow, 1206 SMT, 3A, 63V
F101	170-6302-SS	Fuse, Slow, 1206 SMT, 2A, 63V
LED100	24-0024-0S	LED, SMD, Rev Mount, RED/GRN, 631/573nm
R100, R103-R105	122-0100-104	Resistor, 0603 SMT, 100Ω, 0.1W, 5%
R101, R102	122-51P1-102	Resistor, 0603 SMT, 51.1Ω, 0.1W, 1%
R106-R115	122-0018-102	Resistor, 0603 SMT, 18Ω, 0.1W, 1%
R116-R120	120-0075-122	Resistor, 0805 SMT, 75Ω, 0.125W, 1%
RGB100-RGB104	24-0016-00	LED, SMT, High-Power RGB, 624/527/470nm
U100	141-0020-0S	Quad Diff Line Rcvr w/3-State Outputs, ST26C32AB, TSSOP-16 SMT
U101, U102	140-0005-0S	LED Driver, I2C-Bus, 24-Bit, 5MHz, PCU9656, LQFP-48 SMT
J700	30-2005-03	Header, Male, 3-pin, 6.35mm
J701	30-2510-01	Jack Header, w/Shield, RJ45 (Ethernet)
J702	30-2203-24	Header, Male, 24-Pin, 2 Rows, 2.5mm
J703	30-2003-00	Header, Male, 4-pin, 2.54mm
J704-J707	30-2203-04	Header, Male, 4-Pin, 2 Rows, 2.5mm

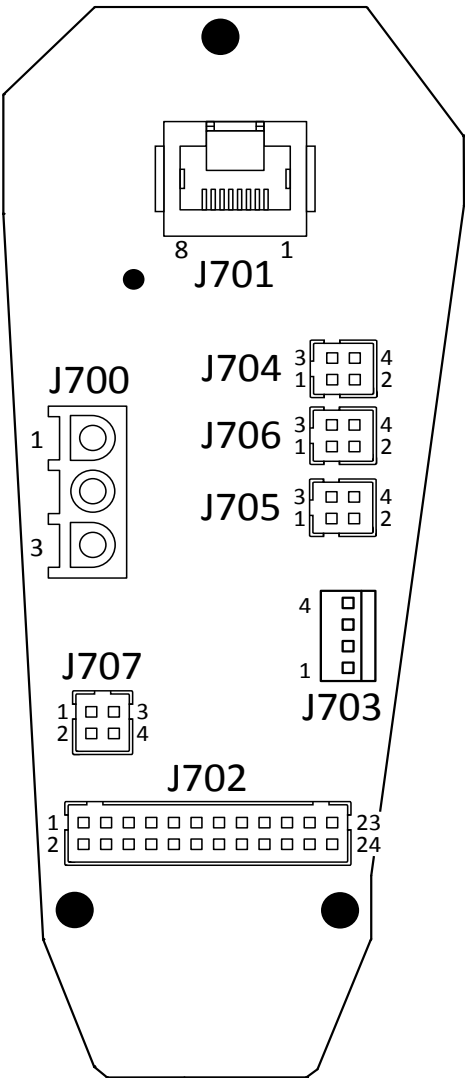
WOZ 2.0 Winged Monkey RGB LED Bd, W7
15-0044-07



WOZ 2.0 Winged Monkey RGB LED Bd, W7

15-0044-07

Connector Pin-outs



Note: All RGB LED Board connections to J700 pass through an in-line connector mounted in back panel of Cabinet PCB Chassis Assembly.

J700 Power Input

J700-1	VIO	+4VDC from 7.5/4VDC Power Supply
J700-2	RED	+5VDC from Primary ATX Pwr Supply
J700-3	BLK	Ground from 7.5/4VDC Power Supply

J701 UFM I2C Communications

CAT5 or higher Ethernet cable to Communications Hub Bd, J107

J702 RGB LED Control

J702-1	BLK	+4VDC to RGB GI Bd 14, J100-1
J702-2	BLK-GRN	RGB100 GRN return from RGB GI Bd 14, J100-2
J702-3	BLK-RED	RGB100 RED return from RGB GI Bd 14, J100-3
J702-4	BLK-BLU	RGB100 BLU return from RGB GI Bd 14, J100-4
J702-5	BRN	+4VDC to RGB GI Bd 12, J100-1
J702-6	BRN-GRN	RGB100 GRN return from RGB GI Bd 12, J100-2
J702-7	BRN-RED	RGB100 RED return from RGB GI Bd 12, J100-3
J702-8	BRN-BLU	RGB100 BLU return from RGB GI Bd 12, J100-4
J702-9	RED	+4VDC to RGB GI Bd 10, J100-1
J702-10	RED-GRN	RGB100 GRN return from RGB GI Bd 10, J100-2
J702-11	RED-GRY	RGB100 RED return from RGB GI Bd 10, J100-3
J702-12	RED-BLU	RGB100 BLU return from RGB GI Bd 10, J100-4
J702-13	ORN	+4VDC to RGB GI Bd 13, J100-1
J702-14	ORN-GRN	RGB100 GRN return from RGB GI Bd 13, J100-2
J702-15	ORN-RED	RGB100 RED return from RGB GI Bd 13, J100-3
J702-16	ORN-BLU	RGB100 BLU return from RGB GI Bd 13, J100-4
J702-17	YEL	+4VDC to Single RGB LED Bd 192, J100-1
J702-18	YEL-GRN	RGB100 GRN return from Single RGB LED Bd 192, J100-2
J702-19	YEL-RED	RGB100 RED return from Single RGB LED Bd 192, J100-3
J702-20	YEL-BLU	RGB100 BLU return from Single RGB LED Bd 192, J100-4
J702-21	GRN	+4VDC to RGB GI Bd 31, J100-1
J702-22	GRN-GRY	RGB100 GRN return from RGB GI Bd 31, J100-2
J702-23	GRN-RED	RGB100 RED return from RGB GI Bd 31, J100-3
J702-24	GRN-BLU	RGB100 BLU return from RGB GI Bd 31, J100-4

J703 LED Control

J703-1	RED	+4VDC to RED wire of each LED below
J703-2	BLU-WHT	Drive signal to BLK wire of "O" LED in OZ Lanes sign
J703-3	GRN-WHT	Drive signal to BLK wire of "Z" LED in OZ Lanes sign
J703-4	YEL-WHT	Drive signal to BLK wire of LED in Haunted Forest sign

J704-J707 RGB LED Control

Not Used

WOZ 2.0 Witch Castle RGB LED Bd, W8
15-0044-08

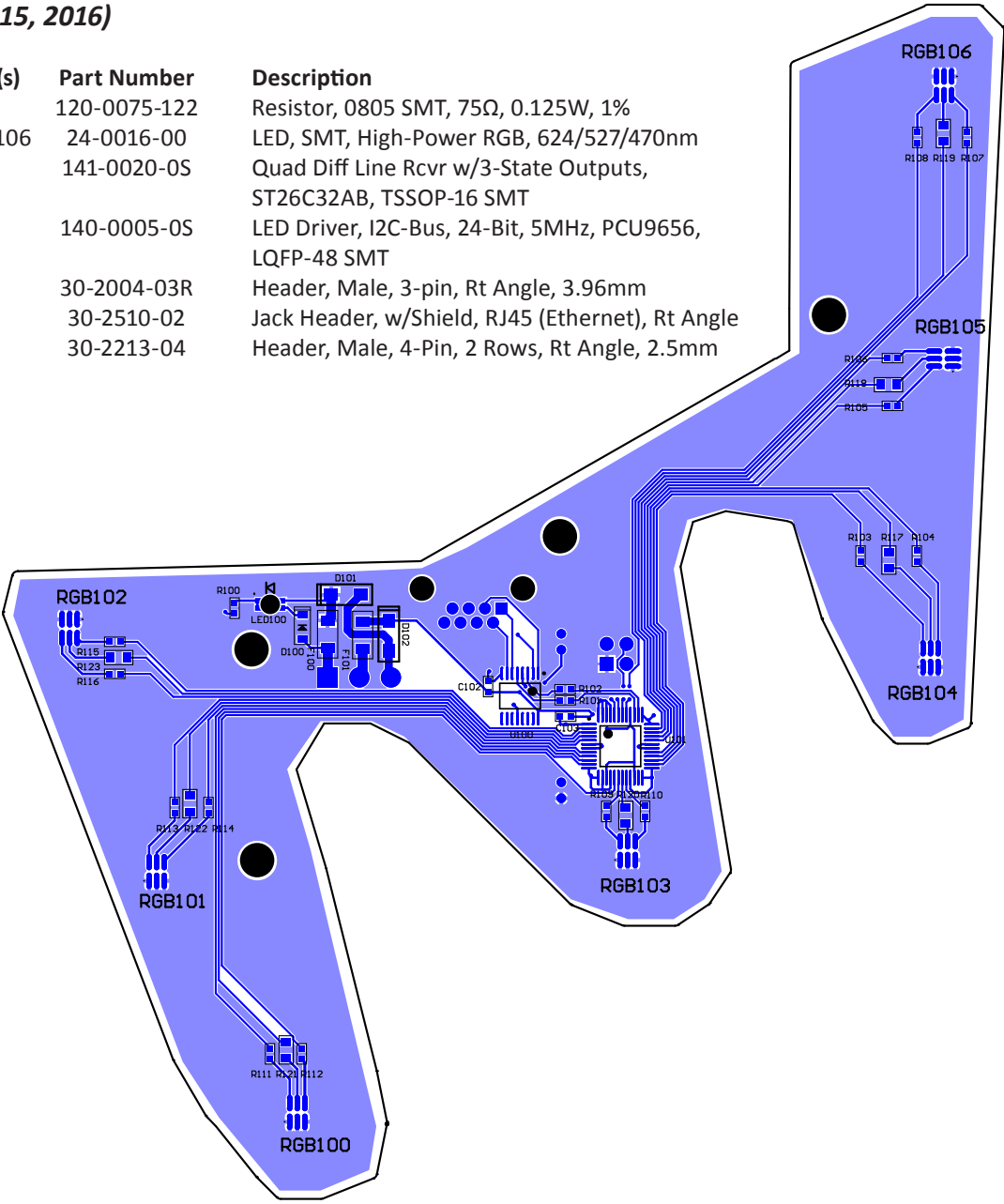
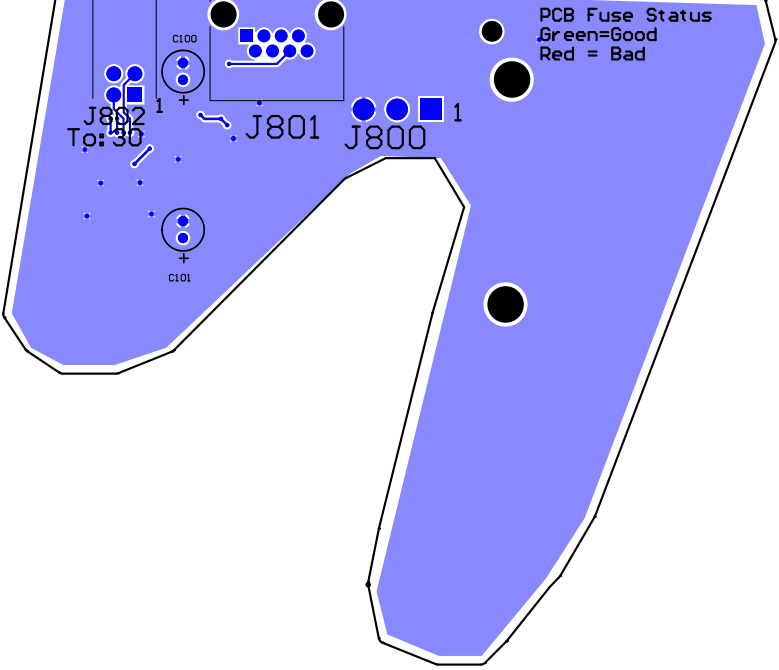
(games manufactured on/after Dec 15, 2016)

(C)2016 JJP
15-0044-08
Witch Castle
RGB Board
(WOZLED08)
V2.0

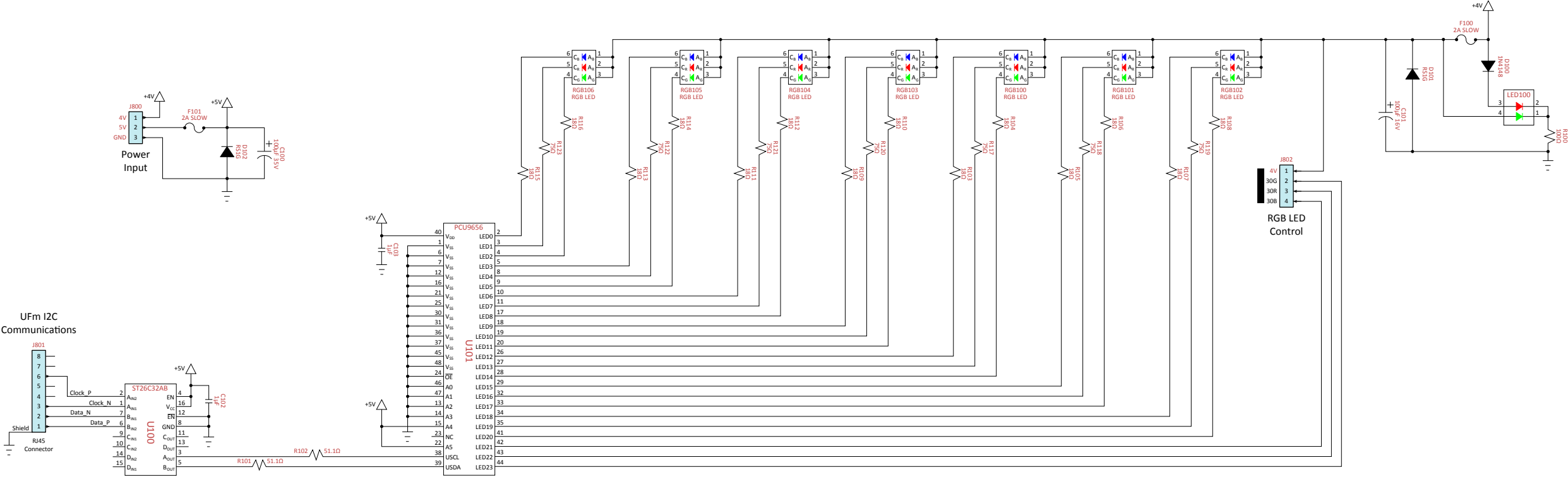
JERSEY
JACK
PINBALL

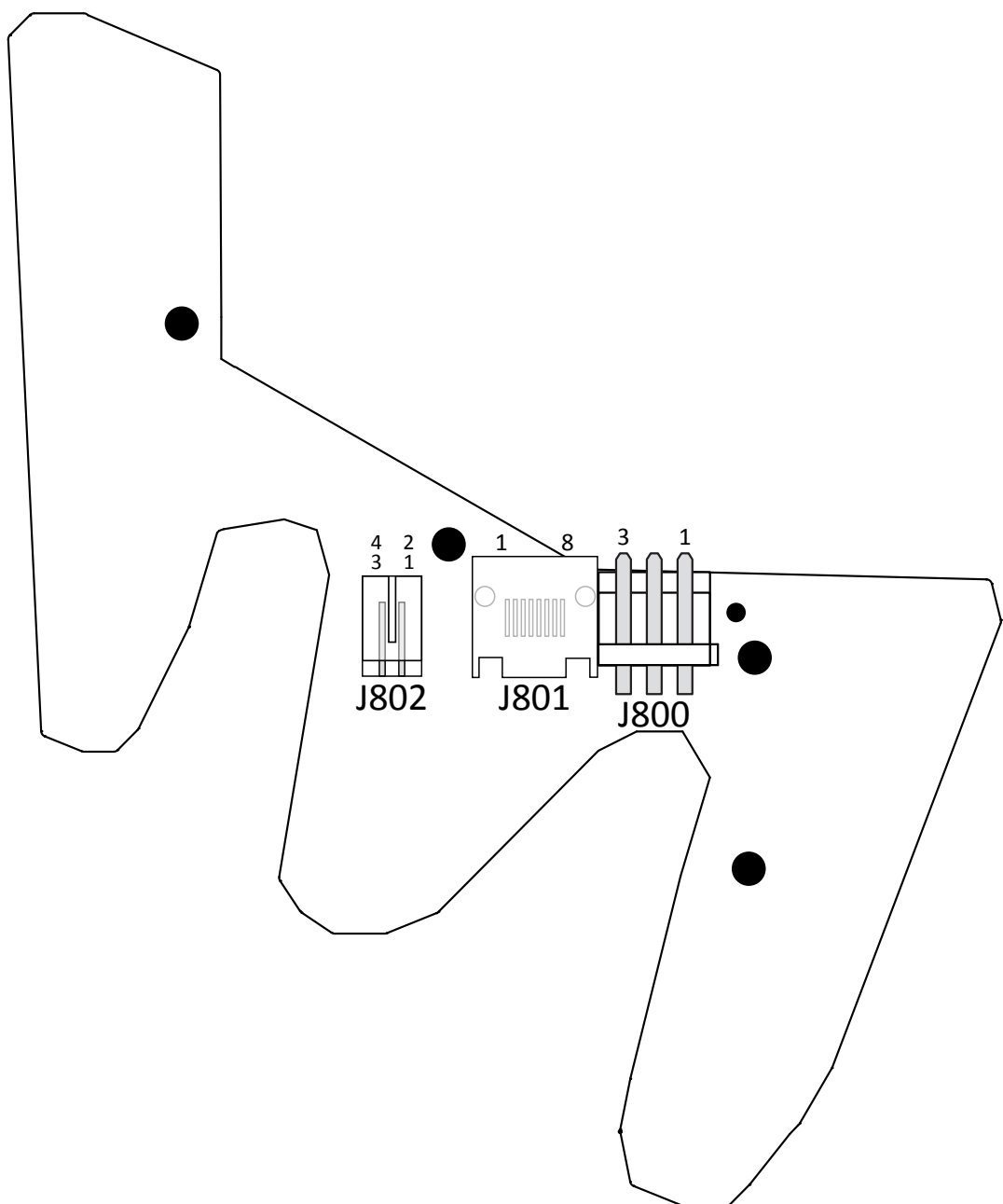
Component(s)	Part Number	Description
C100, C101	109-100M-016	Capacitor, Elect (Radial), 100μF, 16V, 20%
C102, C103	103-105Z-016	Capacitor, MLCC, 0603 SMT, 1μF, 16V, +80%, -20%
D100	110-1001-0S	Diode, 1N4148, SMT, 100V, 300mA
D101, D102	110-5001-0S	Diode, RS1G, SMT, 400V, 1A, 150ns
F100, F101	170-6302-SS	Fuse, Slow, 1206 SMT, 2A, 63V
LED100	24-0024-0S	LED, SMD, Rev Mount, RED/GRN, 631/573nm
R100	122-0100-104	Resistor, 0603 SMT, 100Ω, 0.1W, 5%
R103-R116	122-0018-102	Resistor, 0603 SMT, 18Ω, 0.1W, 1%

Component(s)	Part Number	Description
R117-R123	120-0075-122	Resistor, 0805 SMT, 75Ω, 0.125W, 1%
RGB100-RGB106	24-0016-00	LED, SMT, High-Power RGB, 624/527/470nm
U100	141-0020-0S	Quad Diff Line Rcvr w/3-State Outputs, ST26C32AB, TSSOP-16 SMT
U101	140-0005-0S	LED Driver, I2C-Bus, 24-Bit, 5MHz, PCU9656, LQFP-48 SMT
J800	30-2004-03R	Header, Male, 3-pin, Rt Angle, 3.96mm
J801	30-2510-02	Jack Header, w/Shield, RJ45 (Ethernet), Rt Angle
J802	30-2213-04	Header, Male, 4-Pin, 2 Rows, Rt Angle, 2.5mm



WOZ 2.0 Witch Castle RGB LED Bd, W8
15-0044-08





WOZ 2.0 Witch Castle RGB LED Bd, W8
15-0044-08
Connector Pin-outs

J800 Power Input

J800-1	VIO	+4VDC from 7.5/4VDC Power Supply
J800-2	RED	+5VDC from Primary ATX Pwr Supply
J800-3	BLK	Ground from 7.5/4VDC Power Supply

J801 UFM I2C Communications

CAT5 or higher Ethernet cable to Communications Hub Bd, J108

J802 RGB LED Control

J802-1	BLK	+4VDC to RGB GI Bd 30, J100-1
J802-2	BLK-GRN	RGB100 GRN return from RGB GI Bd 30, J100-2
J802-3	BLK-RED	RGB100 RED return from RGB GI Bd 30, J100-3
J802-4	BLK-BLU	RGB100 BLU return from RGB GI Bd 30, J100-4

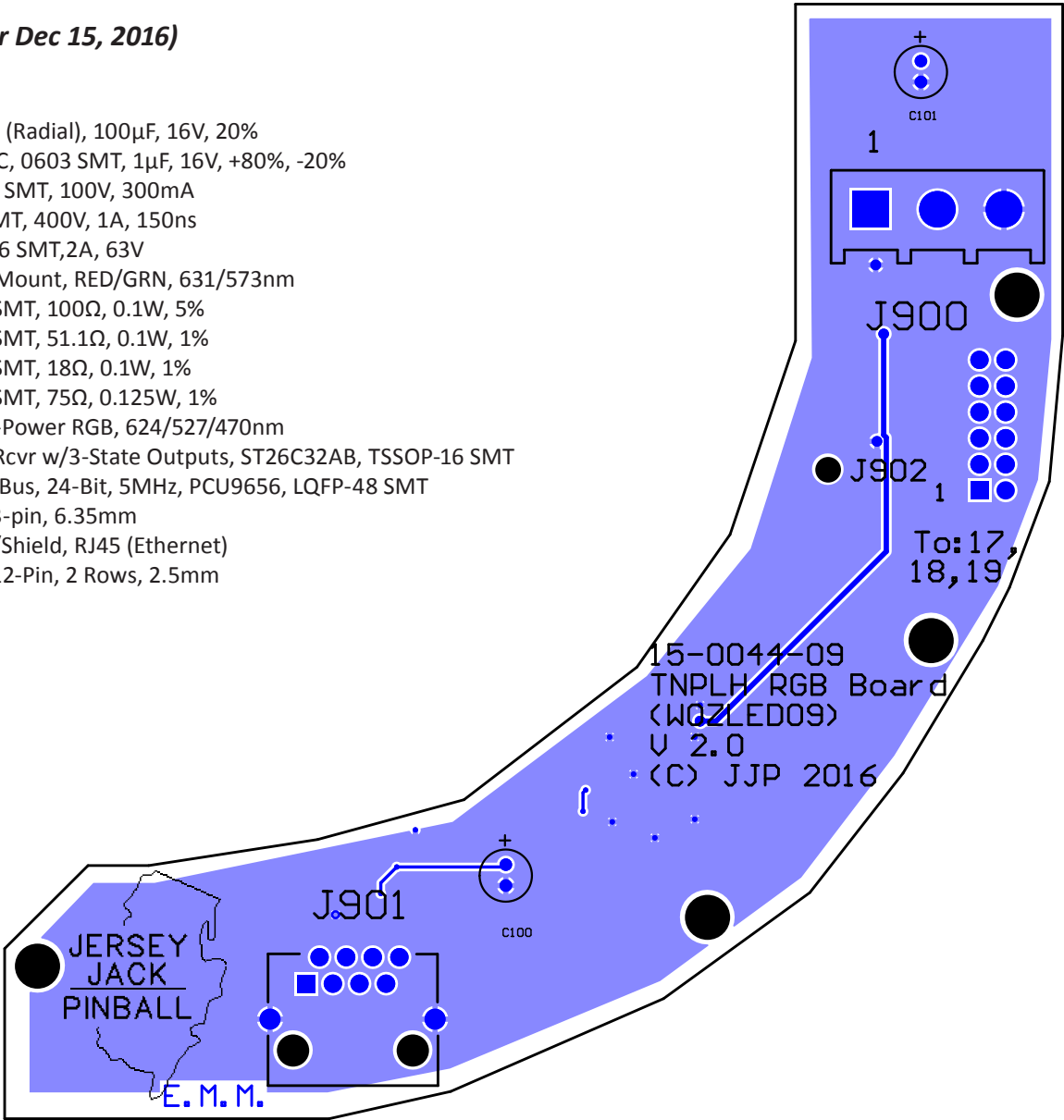
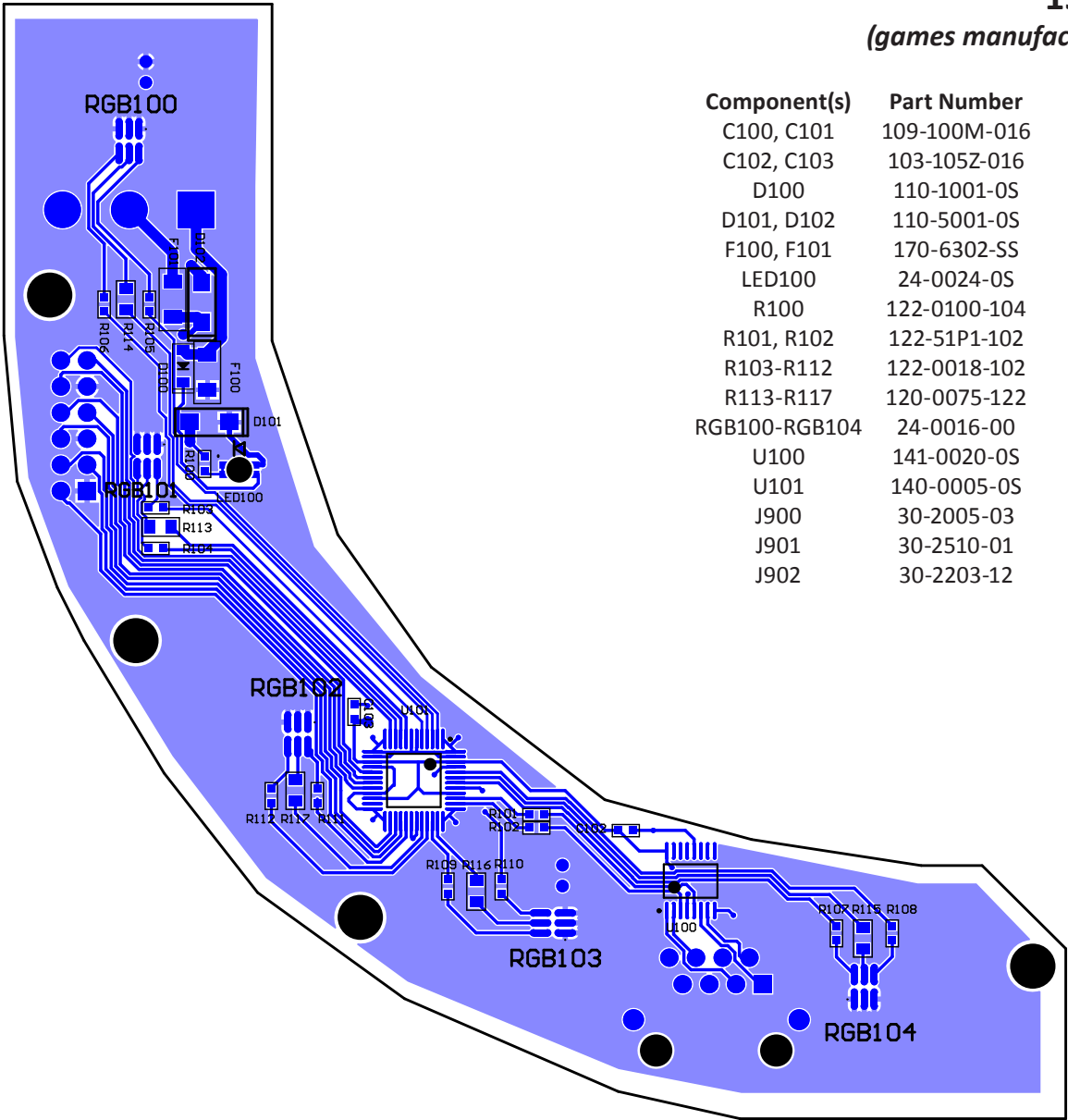
Note: All RGB LED Board connections to J100 pass through an in-line connector mounted in back panel of Cabinet PCB Chassis Assembly.

WOZ 2.0 TNPLH RGB LED Bd, W9

15-0044-09

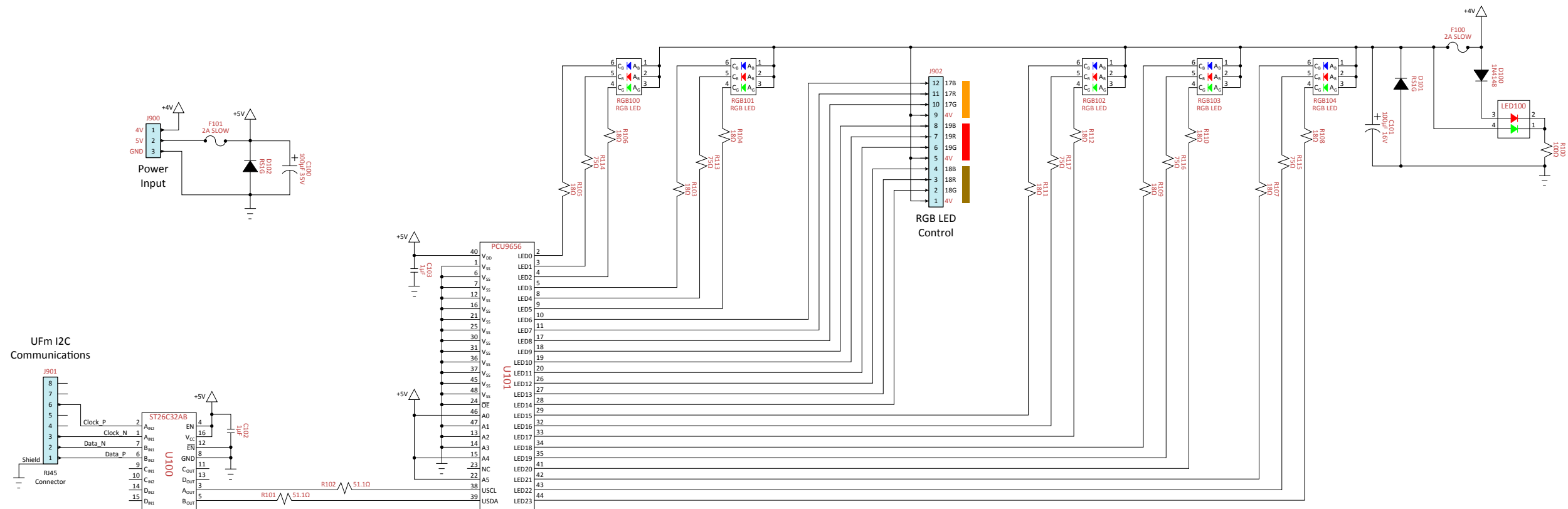
(games manufactured on/after Dec 15, 2016)

Component(s)	Part Number	Description
C100, C101	109-100M-016	Capacitor, Elect (Radial), 100μF, 16V, 20%
C102, C103	103-105Z-016	Capacitor, MLCC, 0603 SMT, 1μF, 16V, +80%, -20%
D100	110-1001-0S	Diode, 1N4148, SMT, 100V, 300mA
D101, D102	110-5001-0S	Diode, RS1G, SMT, 400V, 1A, 150ns
F100, F101	170-6302-SS	Fuse, Slow, 1206 SMT, 2A, 63V
LED100	24-0024-0S	LED, SMD, Rev Mount, RED/GRN, 631/573nm
R100	122-0100-104	Resistor, 0603 SMT, 100Ω, 0.1W, 5%
R101, R102	122-51P1-102	Resistor, 0603 SMT, 51.1Ω, 0.1W, 1%
R103-R112	122-0018-102	Resistor, 0603 SMT, 18Ω, 0.1W, 1%
R113-R117	120-0075-122	Resistor, 0805 SMT, 75Ω, 0.125W, 1%
RGB100-RGB104	24-0016-00	LED, SMT, High-Power RGB, 624/527/470nm
U100	141-0020-0S	Quad Diff Line Rcvr w/3-State Outputs, ST26C32AB, TSSOP-16 SMT
U101	140-0005-0S	LED Driver, I2C-Bus, 24-Bit, 5MHz, PCU9656, LQFP-48 SMT
J900	30-2005-03	Header, Male, 3-pin, 6.35mm
J901	30-2510-01	Jack Header, w/Shield, RJ45 (Ethernet)
J902	30-2203-12	Header, Male, 12-Pin, 2 Rows, 2.5mm



WOZ 2.0 TNPLH RGB LED Bd, W9

15-0044-09



WOZ 2.0 TNPLH RGB LED Bd, W9
15-0044-09
Connector Pin-outs

J900 Power Input

J900-1	VIO	+4VDC from 7.5/4VDC Power Supply
J900-2	RED	+5VDC from Primary ATX Pwr Supply
J900-3	BLK	Ground from 7.5/4VDC Power Supply

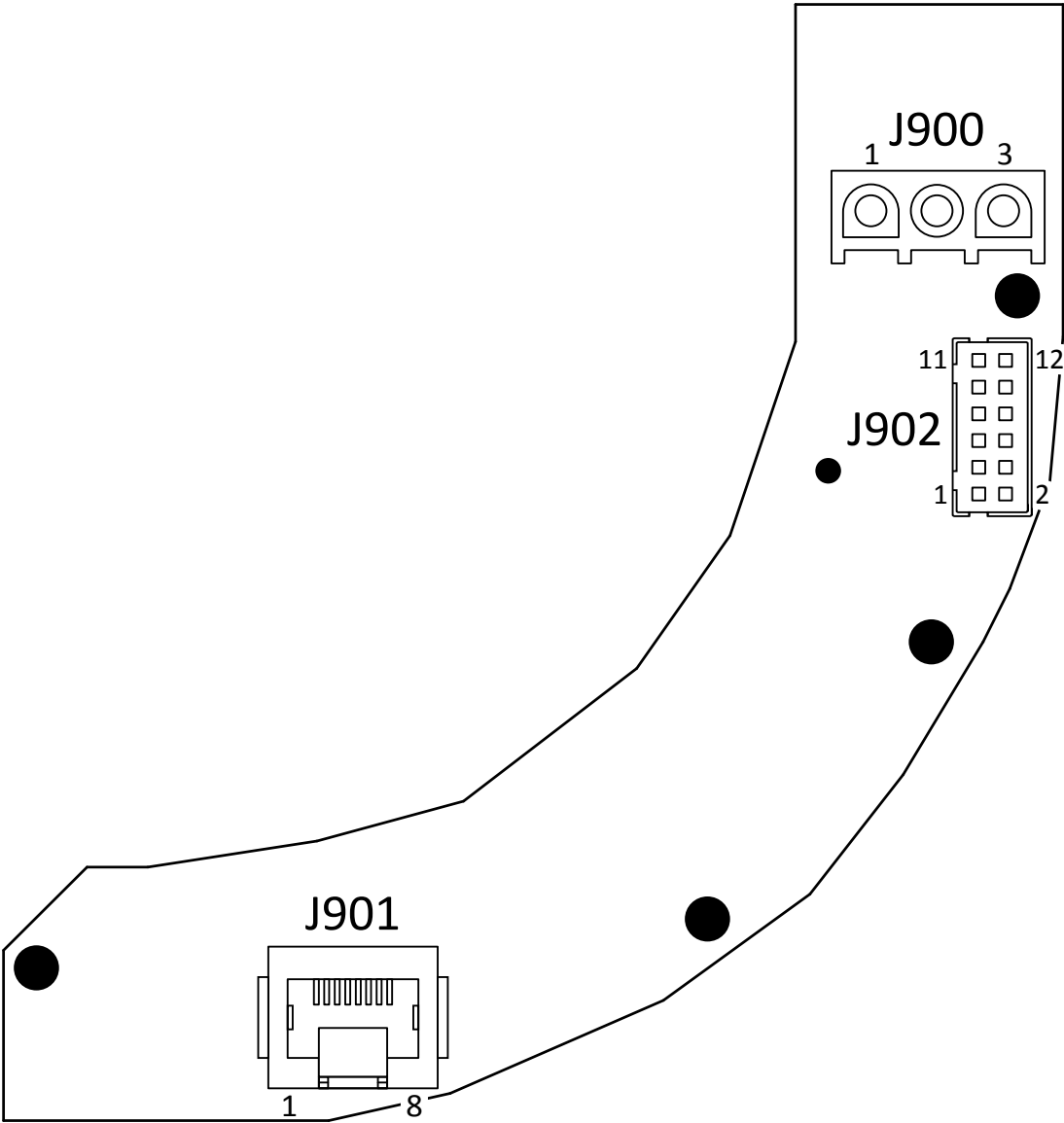
J901 UFM I2C Communications

CAT5 or higher Ethernet cable to Communications Hub Bd, J109

J902 RGB LED Control

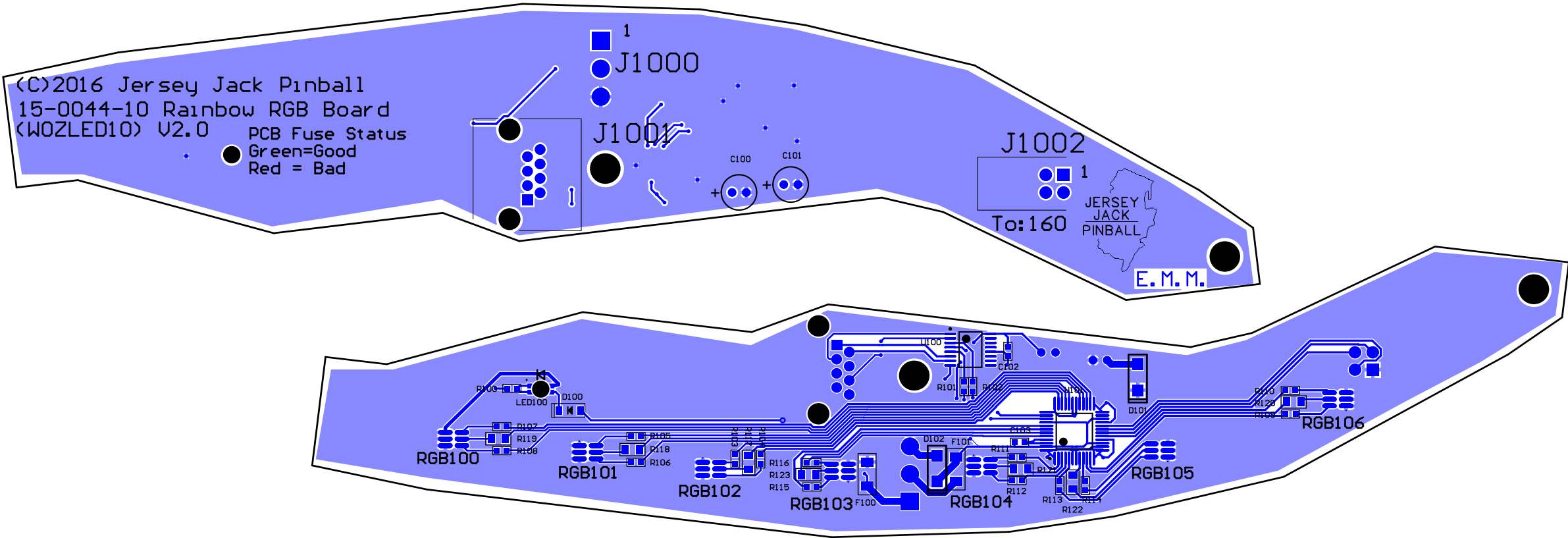
J902-1	BRN	+4VDC to RGB GI Bd 18, J100-1
J902-2	BRN-GRN	RGB100 GRN return from RGB GI Bd 18, J100-2
J902-3	BRN-RED	RGB100 RED return from RGB GI Bd 18, J100-3
J902-4	BRN-BLU	RGB100 BLU return from RGB GI Bd 18, J100-4
J902-5	RED	+4VDC to RGB GI Bd 19, J100-1
J902-6	RED-GRN	RGB100 GRN return from RGB GI Bd 19, J100-2
J902-7	RED-GRY	RGB100 RED return from RGB GI Bd 19, J100-3
J902-8	RED-BLU	RGB100 BLU return from RGB GI Bd 19, J100-4
J902-9	ORN	+4VDC to RGB GI Bd 17, J100-1
J902-10	ORN-GRN	RGB100 GRN return from RGB GI Bd 17, J100-2
J902-11	ORN-RED	RGB100 RED return from RGB GI Bd 17, J100-3
J902-12	ORN-BLU	RGB100 BLU return from RGB GI Bd 17, J100-4

Note: All RGB LED Board connections to J200 pass through an in-line connector mounted in back panel of Cabinet PCB Chassis Assembly.

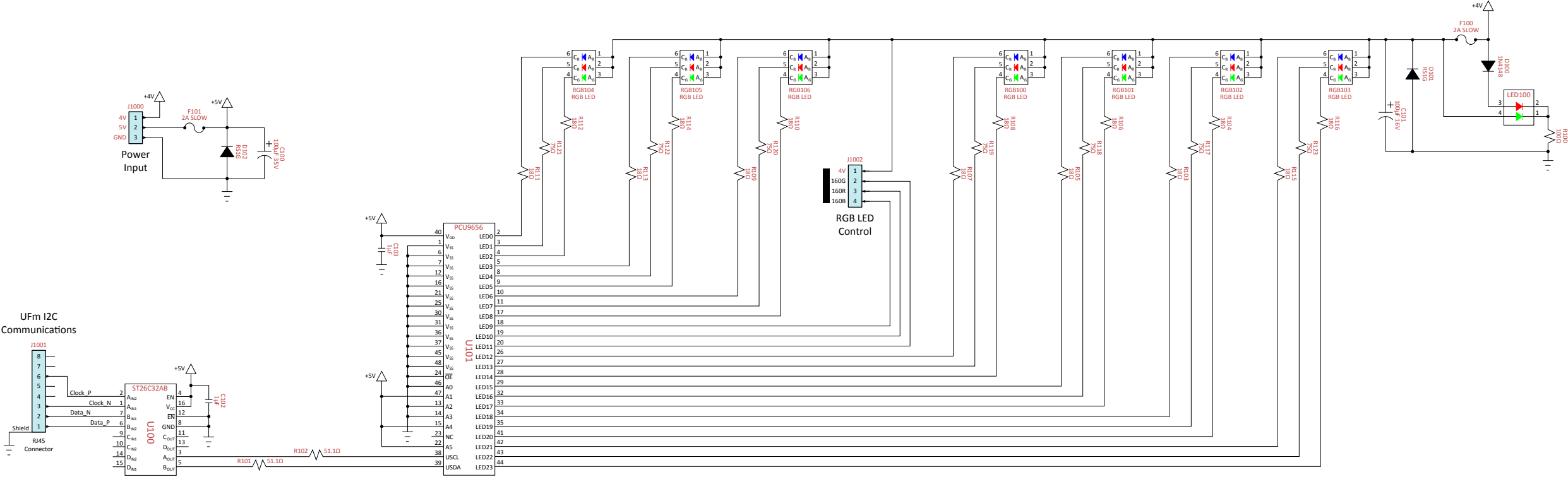


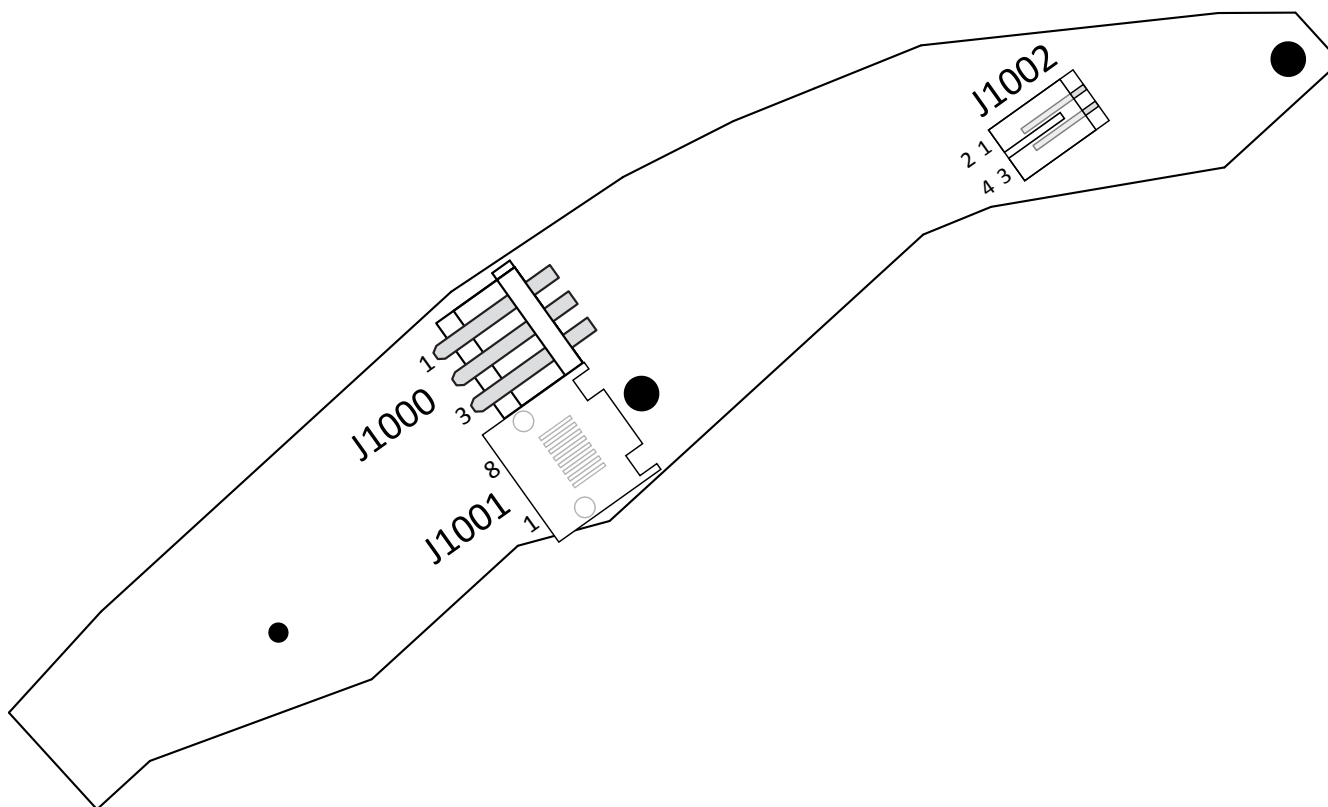
WOZ 2.0 Rainbow RGB LED Bd, W10
15-0044-10
(games manufactured on/after Dec 15, 2016)

Component(s)	Part Number	Description	Component(s)	Part Number	Description
C100, C101	109-100M-016	Capacitor, Elect (Radial), 100μF, 16V, 20%	R103-R116	122-0018-102	Resistor, 0603 SMT, 18Ω, 0.1W, 1%
C102, C103	103-105Z-016	Capacitor, MLCC, 0603 SMT, 1μF, 16V, +80%, -20%	R117-R123	120-0075-122	Resistor, 0805 SMT, 75Ω, 0.125W, 1%
D100	110-1001-0S	Diode, 1N4148, SMT, 100V, 300mA	RGB100-RGB106	24-0016-00	LED, SMT, High-Power RGB, 624/527/470nm
D101, D102	110-5001-0S	Diode, RS1G, SMT, 400V, 1A, 150ns	U100	141-0020-0S	Quad Diff Line Rcvr w/3-State Outputs, ST26C32AB, TSSOP-16 SMT
F100, F101	170-6302-SS	Fuse, Slow, 1206 SMT, 2A, 63V	U101	140-0005-0S	LED Driver, I2C-Bus, 24-Bit, 5MHz, PCU9656, LQFP-48 SMT
LED100	24-0024-0S	LED, SMD, Rev Mount, RED/GRN, 631/573nm	J1000	30-2004-03R	Header, Male, 3-pin, Rt Angle, 3.96mm
R100	122-0100-104	Resistor, 0603 SMT, 100Ω, 0.1W, 5%	J1001	30-2510-02	Jack Header, w/Shield, RJ45 (Ethernet), Rt Angle
R101, R102	122-51P1-102	Resistor, 0603 SMT, 51.1Ω, 0.1W, 1%	J1002	30-2213-04	Header, Male, 4-Pin, 2 Rows, Rt Angle, 2.5mm



WOZ 2.0 Rainbow RGB LED Bd, W10
15-0044-10





WOZ 2.0 Rainbow RGB LED Bd, W10

15-0044-10

Connector Pin-outs

J1000 Power Input

J1000-1	VIO	+4VDC from 7.5/4VDC Power Supply
J1000-2	RED	+5VDC from Primary ATX Pwr Supply
J1000-3	BLK	Ground from 7.5/4VDC Power Supply

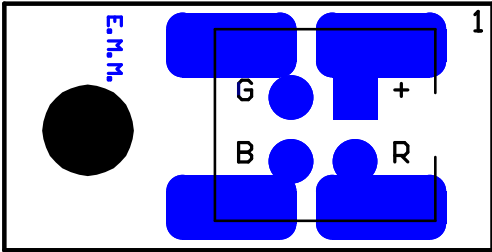
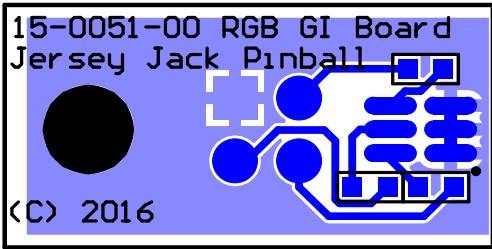
J1001 UFM I2C Communications

CAT5 or higher Ethernet cable to Communications Hub Bd, J110

J1002 RGB LED Control

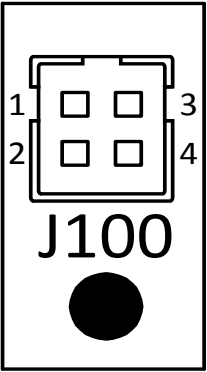
J1002-1	BLK	+4VDC to Single RGB LED Bd 160, J100-1
J1002-2	BLK-GRN	RGB100 GRN return from Single RGB LED Bd 160, J100-2
J1002-3	BLK-RED	RGB100 RED return from Single RGB LED Bd 160, J100-3
J1002-4	BLK-BLU	RGB100 BLU return from Single RGB LED Bd 160, J100-4

Note: All RGB LED Board connections to J100 pass through an in-line connector mounted in back panel of Cabinet PCB Chassis Assembly.



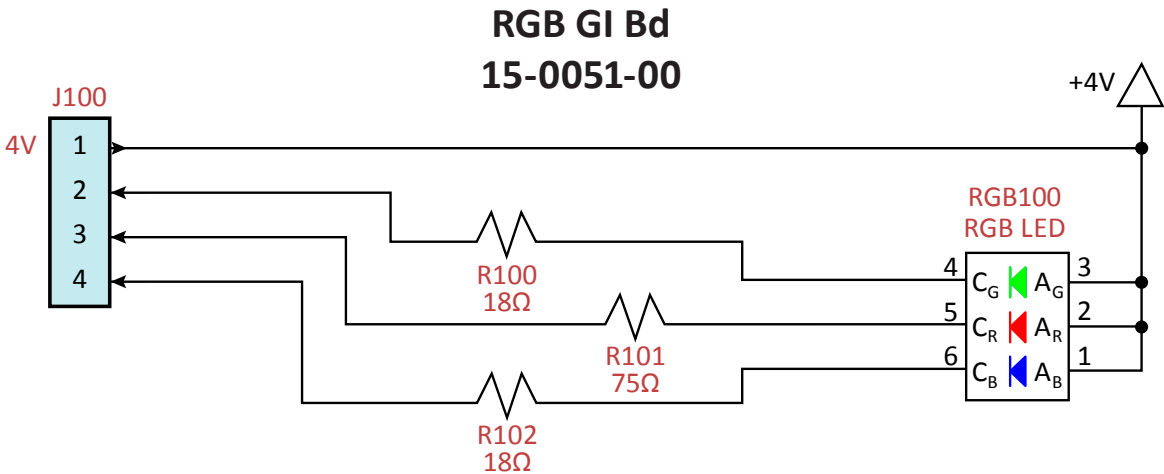
RGB GI Bd
15-0051-00

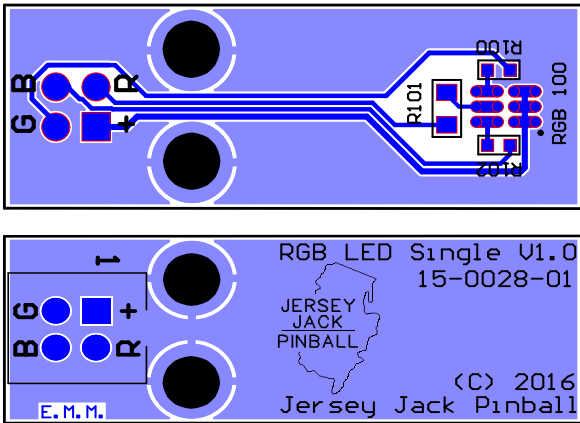
Component(s)	Part Number	Description
R100, R102	122-0018-102	Resistor, 0603 SMT, 18Ω, 0.1W, 1%
R101	122-0075-102	Resistor, 0603 SMT, 75Ω, 0.1W, 1%
RGB100	24-0016-00	LED, SMT, High-Power RGB, 624/527/470nm
J100	30-2203-04	Header, Male, 4-Pin, 2 Rows, 2.5mm



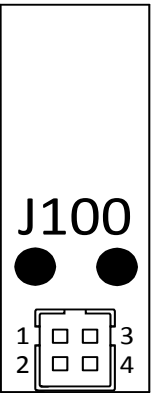
RGB GI Bd
15-0051-00
Connector Pin-out

J100 RGB LED Control/Power Input		
J100-1	XXX	+4VDC from a main RGB LED bd (W1-W10)
J100-2	XXX-GRN	RGB100 GRN return to a main RGB LED bd (W1-W10)
J100-3	XXX-RED	RGB100 RED return to a main RGB LED bd (W1-W10)
J100-4	XXX-BLU	RGB100 BLU return to a main RGB LED bd (W1-W10)





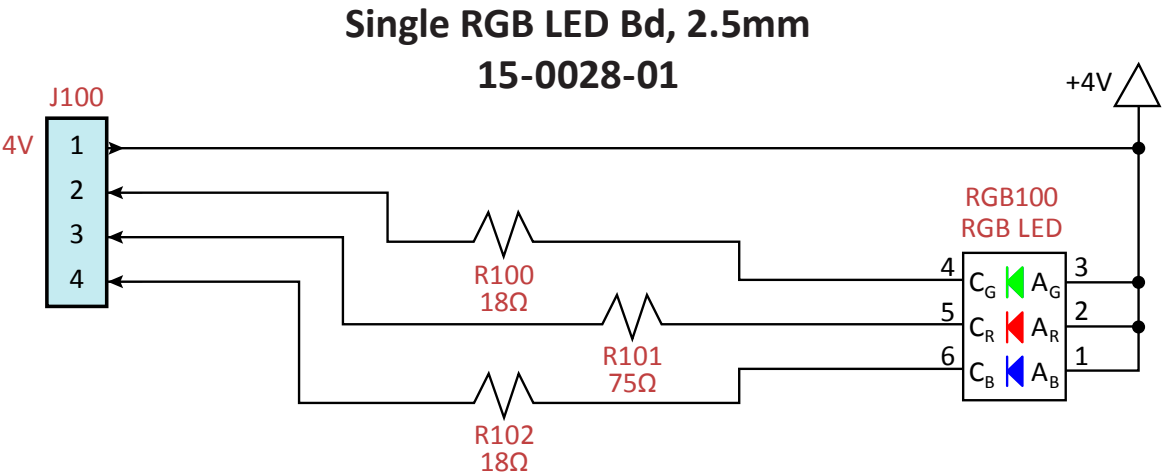
Single RGB LED Bd, 2.5mm
15-0028-01

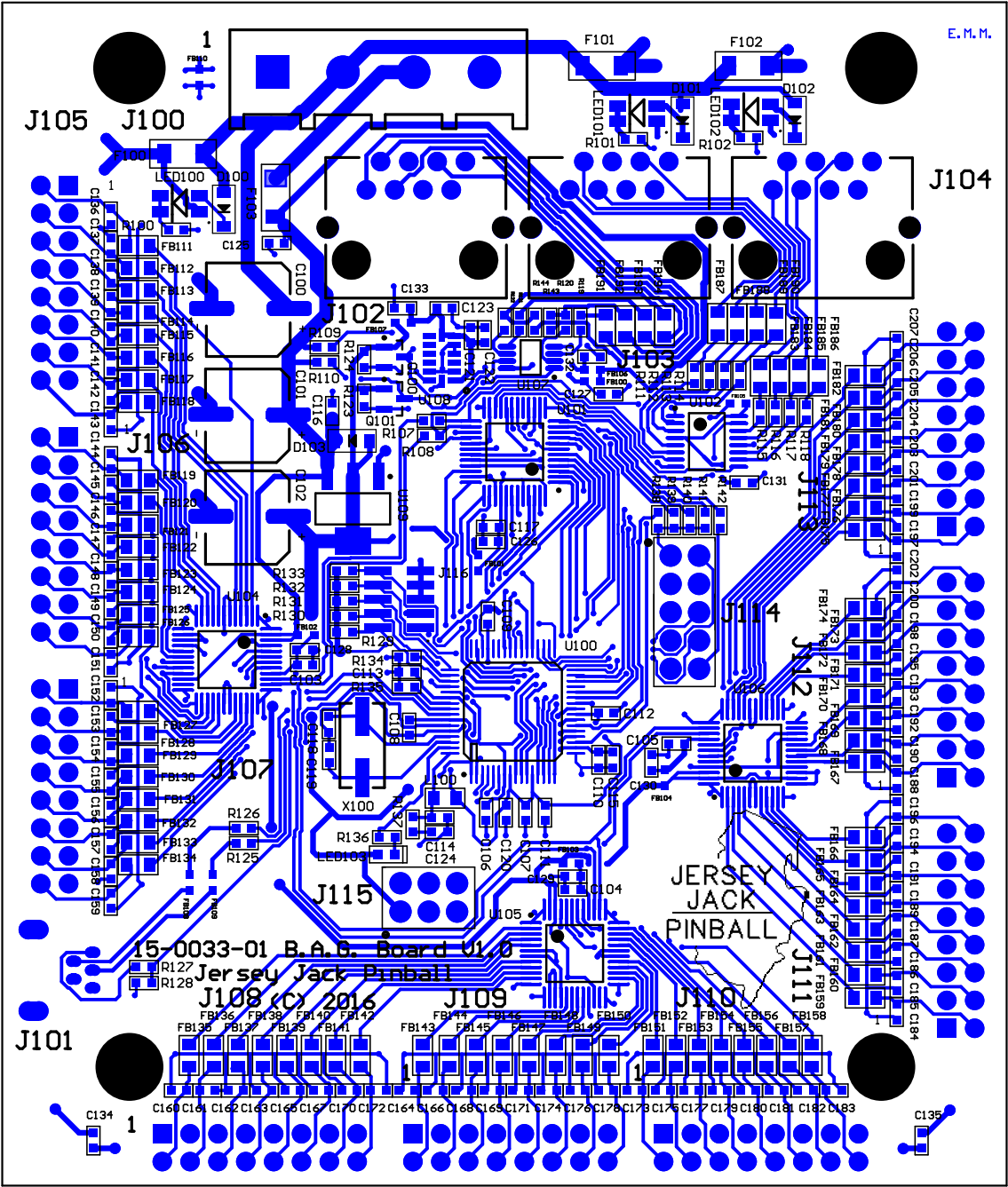


Single RGB LED Bd, 2.5mm
15-0028-01
Connector Pin-out

Component(s)	Part Number	Description
R100, R102	122-0018-102	Resistor, 0603 SMT, 18Ω, 0.1W, 1%
R101	120-0075-122	Resistor, 0805 SMT, 75Ω, 0.125W, 1%
RGB100	24-0016-00	LED, SMT, High-Power RGB, 624/527/470nm
J100	30-2203-04	Header, Male, 4-Pin, 2 Rows, 2.5mm

<i>J100 RGB LED Control/Power Input</i>		
J100-1	XXX	+4VDC from a main RGB LED bd (W1-W10)
J100-2	XXX-GRN	RGB100 GRN return to a main RGB LED bd (W1-W10)
J100-3	XXX-RED	RGB100 RED return to a main RGB LED bd (W1-W10)
J100-4	XXX-BLU	RGB100 BLU return to a main RGB LED bd (W1-W10)





BAG Bd PCB Assy, 2.5mm, WOZ 2.0
15-4033-03

Component(s)	Part Number	Description	Component(s)	Part Number	Description
BARE PCB	15-0033-01	Bus, Accelerometer & GI Controller Bd, 2.5mm	R100-R102, R136	122-0330-102	Resistor, 0603 SMT, 330Ω, 0.1W, 1%
C100-C102	109-100M-035	Capacitor, Elect (Radial), 100μF, 35V, 20%	R111-R114	122-51P1-102	Resistor, 0603 SMT, 51.1Ω, 0.1W, 1%
C106-C114, C121, C122	103-104K-025	Capacitor, MLCC, 0603 SMT, 0.1μF, 25V, 10%	R109, R110	122-02K2-104	Resistor, 0603 SMT, 2.2kΩ, 0.1W, 5%
C115-C117	103-106M-016	Capacitor, MLCC, 0603 SMT, 10μF, 16V, 20%	R123, R124	122-01K1-104	Resistor, 0603 SMT, 1.1kΩ, 0.1W, 5%
C118, C119	103-200J-050	Capacitor, MLCC, 0603 SMT, 20pF, 50V, 5%	R125, R126	122-0027-102	Resistor, 0603 SMT, 27Ω, 0.1W, 1%
C120	103-225K-016	Capacitor, MLCC, 0603 SMT, 2.2μF, 16V, 10%	R127, R129-R135	122-027K-104	Resistor, 0603 SMT, 27kΩ, 0.1W, 5%
C123	103-106M-006	Capacitor, MLCC, 0603 SMT, 10μF, 6.3V, 20%	R128	122-047K-102	Resistor, 0603 SMT, 47kΩ, 0.1W, 1%
C124	103-475K-006	Capacitor, MLCC, 0603 SMT, 4.7μF, 6.3V, 10%	R137	122-0001-104	Resistor, 0603 SMT, 1Ω, 0.1W, 5%
C125-C127, C131, C133	103-102K-050	Capacitor, MLCC, 0603 SMT, 1000pF, 50V, 10%	R138-R142	122-010K-104	Resistor, 0603 SMT, 10kΩ, 0.1W, 5%
C103-C105, C128-C130, C132, C134-C207		Not Populated	R100-R102, R107, R108, R115-R122, R143, R144		Not Populated
D103	110-0011-0S	Diode, MBR0520L, SMT, Schottky Rectifier, 0.5A	U100	141-0021-0S	Microcontroller, 32-Bit, 120MHz, SAM4S8B, LQFP-64 SMT
D100-D102		Not Populated	U101	141-0022-0S	I2C-Bus Controller, UfM, 3-Ch, PCU9669B, LQFP-48 SMT
F103	170-6303-SS	Fuse, Slow, 1206 SMT, 3A, 63V	U102	140-0006-0S	Quad Diff Line Driver w/3-State Outputs, ST26C31B, TSSOP-16 SMT
F100-F102		Not Populated	U108	141-0024-0S	Accelerometer, 3-Axis, I2C-Bus, ADXL343, LGA-14 SMT
FB100, FB101, FB105, FB107-FB110	195-5002-0S	EMI Filter Bead, 0603 SMT, 2.2kΩ at 100MHz, 150mA	U109	142-0009-0S	Voltage Regulator, TLV1117, SOT-223-4 SMT, 3.3V, 300mA
FB187-FB190	195-5003-0S	EMI Filter Bead, 0805 SMT, 2.5kΩ at 100MHz, 200mA	U104-U107		Not Populated
FB102-FB104, FB106, FB111-FB186, FB191-FB194		Not Populated	X100	160-0003-0S	Crystal, 12MHz, 120-20-3X-TR, SMT, 20pF, 50PPM
L100	190-0008-0S	Inductor, SMD, 10μH, 350mA, 50MHz	J100	30-2005-04	Header, Male, 4-pin, 6.35mm
LED103	24-0021-0S	LED, 0603 SMD, YEL, 571nm	J101	31-2507-01	Receptacle, Mini USB 2.0, Type B
LED100-LED102		Not Populated	J103	30-2510-01	Jack Header, w/Shield, RJ45 (Ethernet)
Q100, Q101	130-0006-0S	MOSFET, BSN20-7, N-Ch, SOT-23-3, 50V, 500mA	J102, J104, J105-J115		Not Populated
			J116	31-2514-10	Header, Male, 10-pin, 2 Rows, 1.27mm

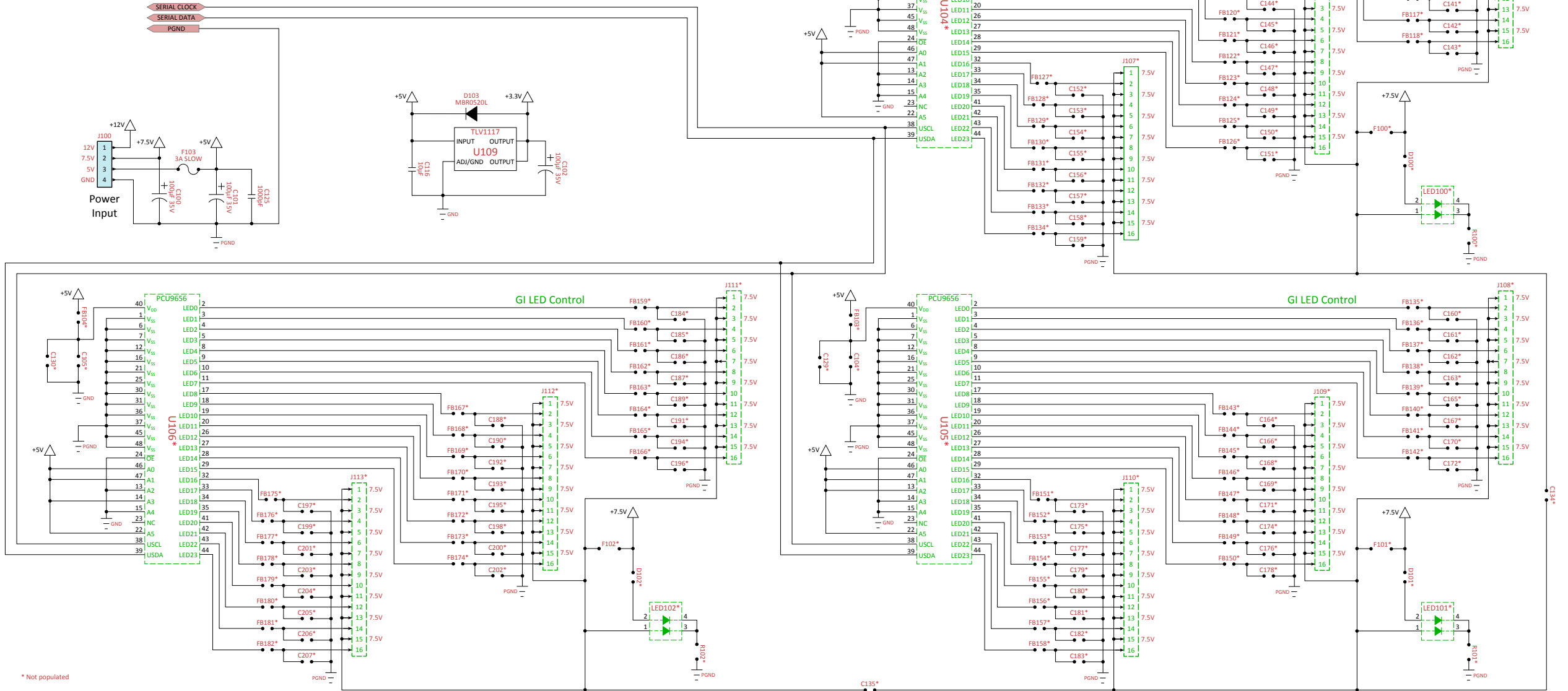


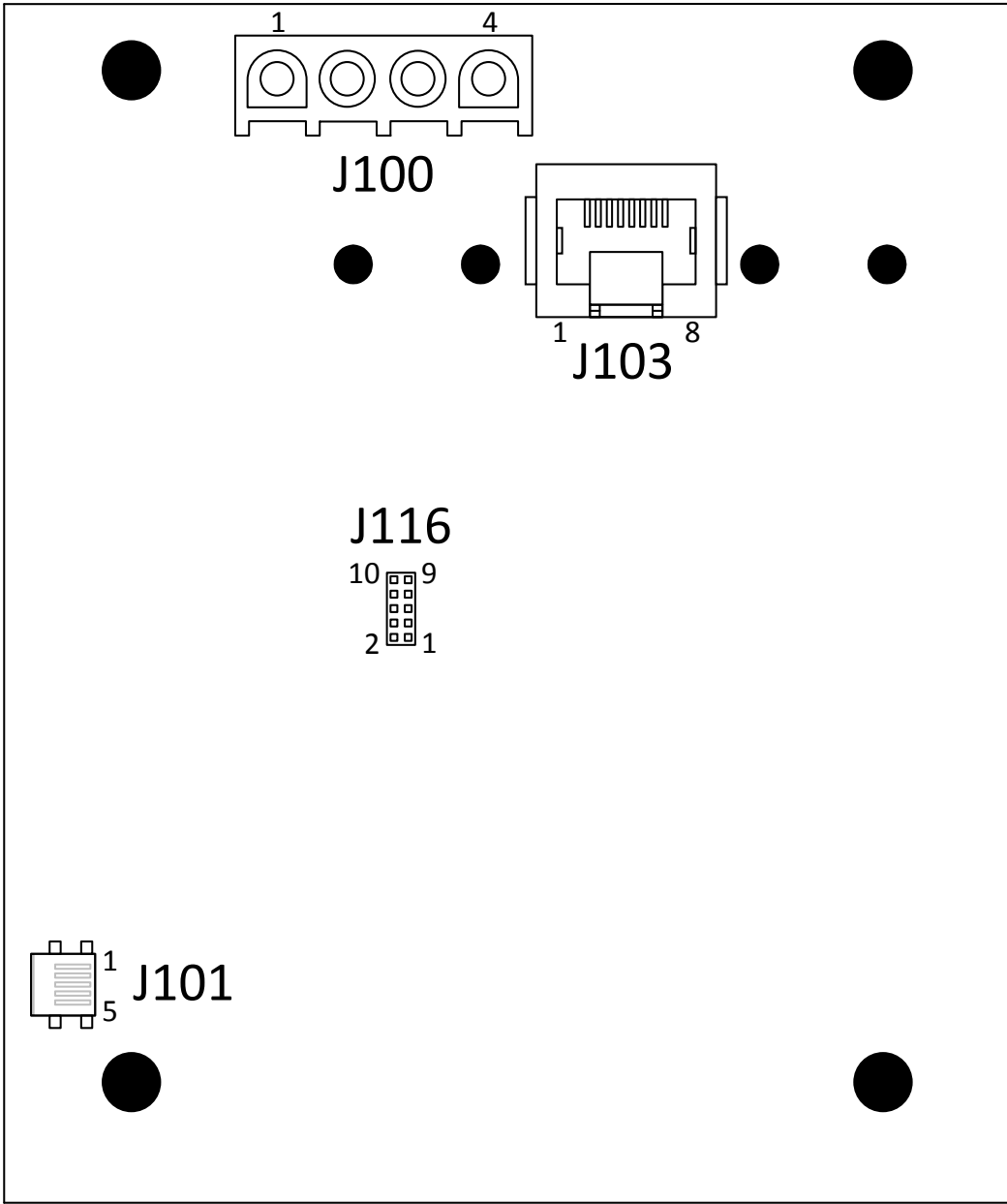
BAG Bd PCB Assy, 2.5mm, WOZ 2.0

15-4033-03

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Power Input & GI Control





BAG Bd PCB Assy, 2.5mm, WOZ 2.0
15-4033-03
Connector Pin-outs

J100 DC Power Input

J100-1	Not Used	
J100-2	Not Used	
J100-3	RED	+5VDC from Primary ATX Pwr Supply
J100-4	BLK	Ground from Primary ATX Pwr Supply

J101 USB Communications

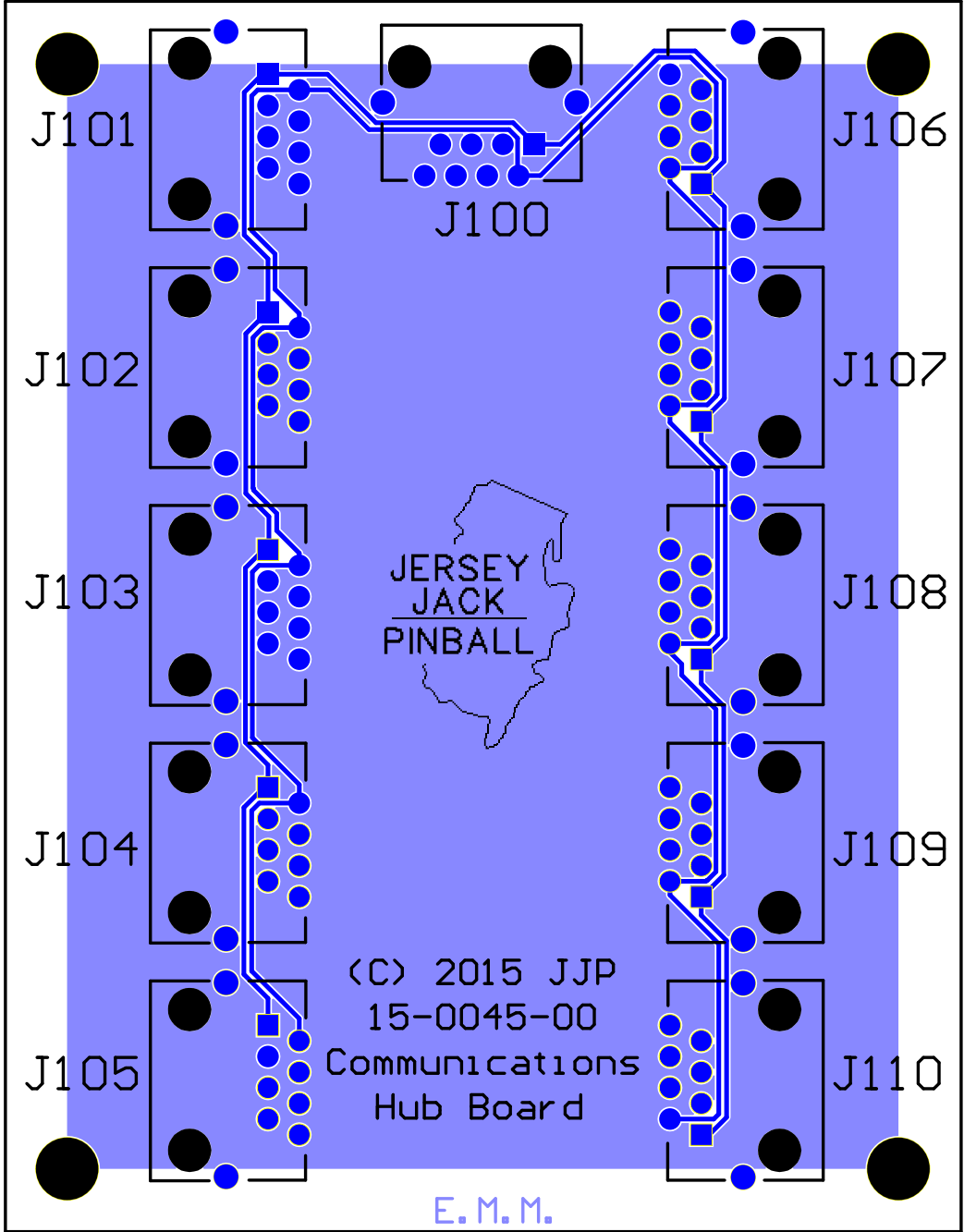
USB Mini-B to 2.0 A cable, run from back of CPU (back of PCB chassis), USB port

J103 UFM I2C Communications

CAT5 or higher Ethernet cable to Communications Hub Bd, J100

J116 JTAG Interface

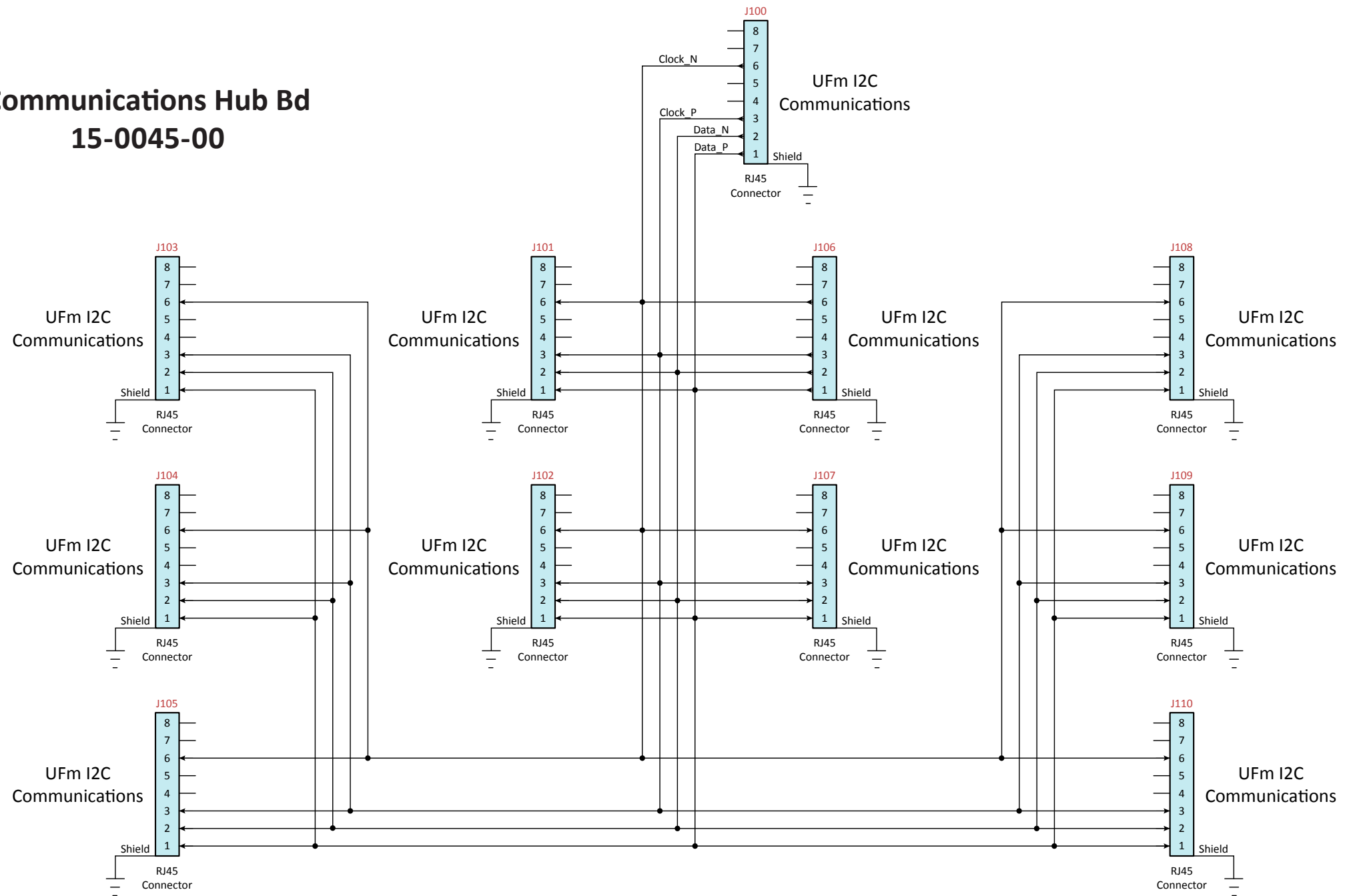
Not Used

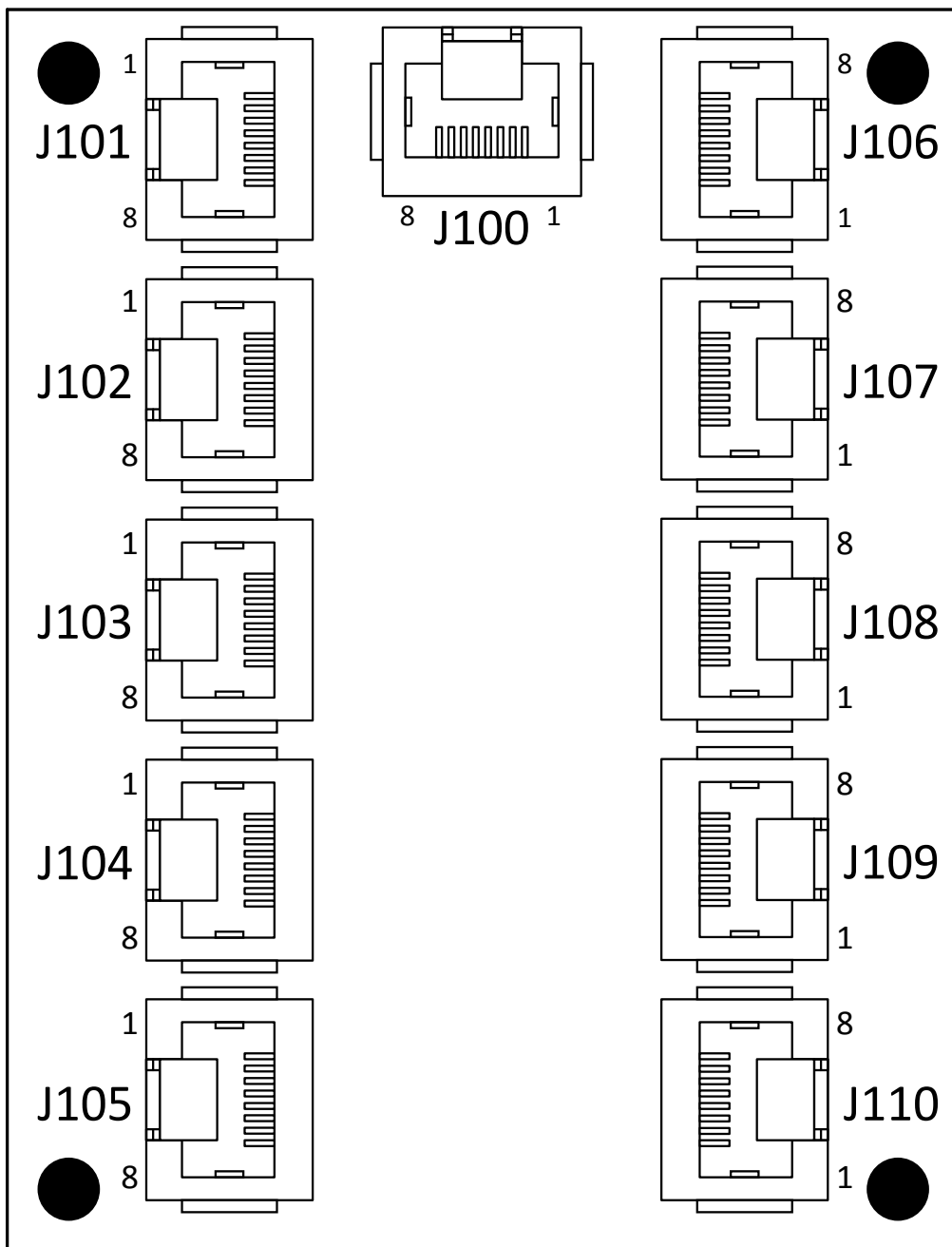


**Communications Hub Bd
15-0045-00**

Component(s)	Part Number	Description
J100-J110	30-2510-01	Jack Header, w/Shield, RJ45 (Ethernet)

Communications Hub Bd 15-0045-00





Communications Hub Bd

15-0045-00

Connector Pin-outs

J100 UFM I2C Communications

CAT5 or higher Ethernet cable from BAG Bd, J103

J101 UFM I2C Communications

CAT5 or higher Ethernet cable to WOZ 2.0 FTYBR RGB LED Bd, J101

J102 UFM I2C Communications

CAT5 or higher Ethernet cable to WOZ 2.0 Tin Man RGB LED Bd, J201

J103 UFM I2C Communications

CAT5 or higher Ethernet cable to WOZ 2.0 Lion RGB LED Bd, J301

J104 UFM I2C Communications

CAT5 or higher Ethernet cable to WOZ 2.0 Throne Room RGB LED Bd, J401

J105 UFM I2C Communications

CAT5 or higher Ethernet cable to WOZ 2.0 Haunted Forest RGB LED Bd, J501

J106 UFM I2C Communications

CAT5 or higher Ethernet cable to WOZ 2.0 Scarecrow RGB LED Bd, J601

J107 UFM I2C Communications

CAT5 or higher Ethernet cable to WOZ 2.0 Winged Monkey RGB LED Bd, J701

J108 UFM I2C Communications

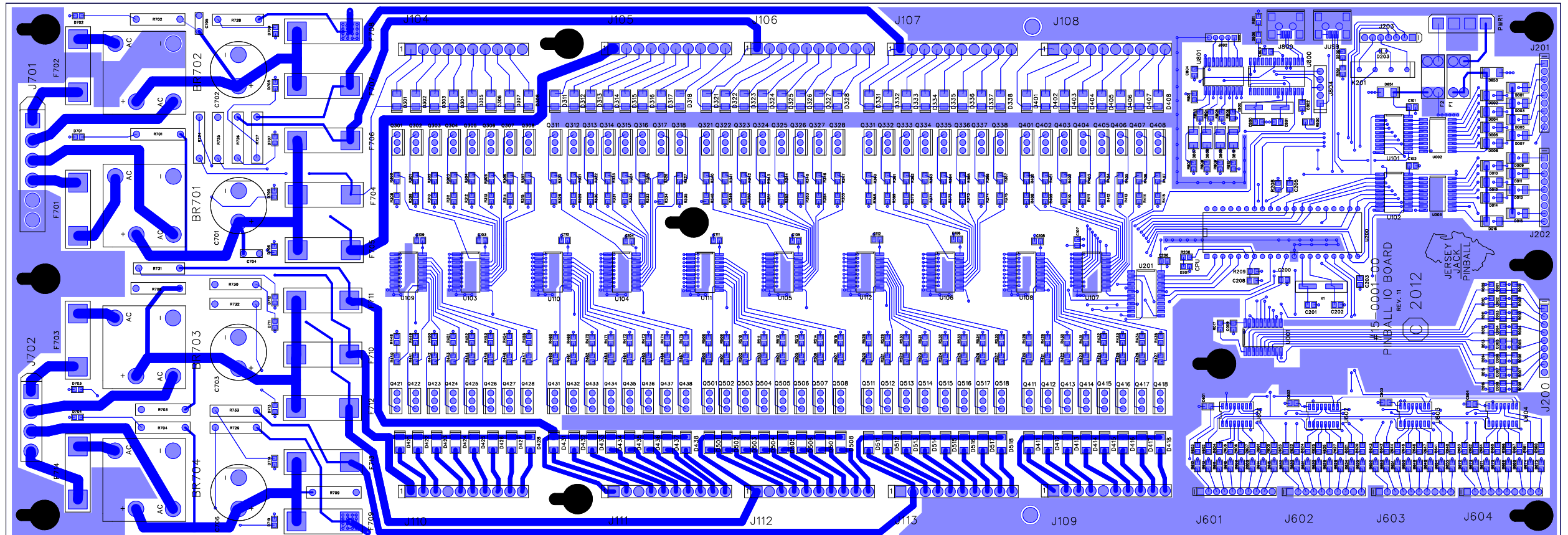
CAT5 or higher Ethernet cable to WOZ 2.0 Witch Castle RGB LED Bd, J801

J109 UFM I2C Communications

CAT5 or higher Ethernet cable to WOZ 2.0 TNPLH RGB LED Bd, J901

J110 UFM I2C Communications

CAT5 or higher Ethernet cable to WOZ 2.0 Rainbow RGB LED Bd, J1001



I/O PCB Assy, WOZ 2.0
15-4001-02

Component(s)	Part Number	Description
BR701-BR704	150-0001-0T	Bridge Rectifier, Wire Leads, 600V, 35A
C001-C008	100-471J-050	Capacitor, MLCC, 0805 SMT, 470pF, 50V, 5%
C009, C101-C112, C200, C205, C206, C208,		
C601-C604, C803, C804	100-104K-050	Capacitor, MLCC, 0805 SMT, 100nF, 50V, 10%
C201, C202, C800, C801	100-220J-050	Capacitor, MLCC, 0805 SMT, 22pF, 50V, 5%
C203, C802	100-224K-050	Capacitor, MLCC, 0805 SMT, 220nF, 50V, 10%
C701, C702	109-3K3M-100	Capacitor, Elect (Radial), 3300μF, 100V, 20%
C703, C706	109-15KM-035	Capacitor, Elect (Radial), 15000μF, 35V, 20%

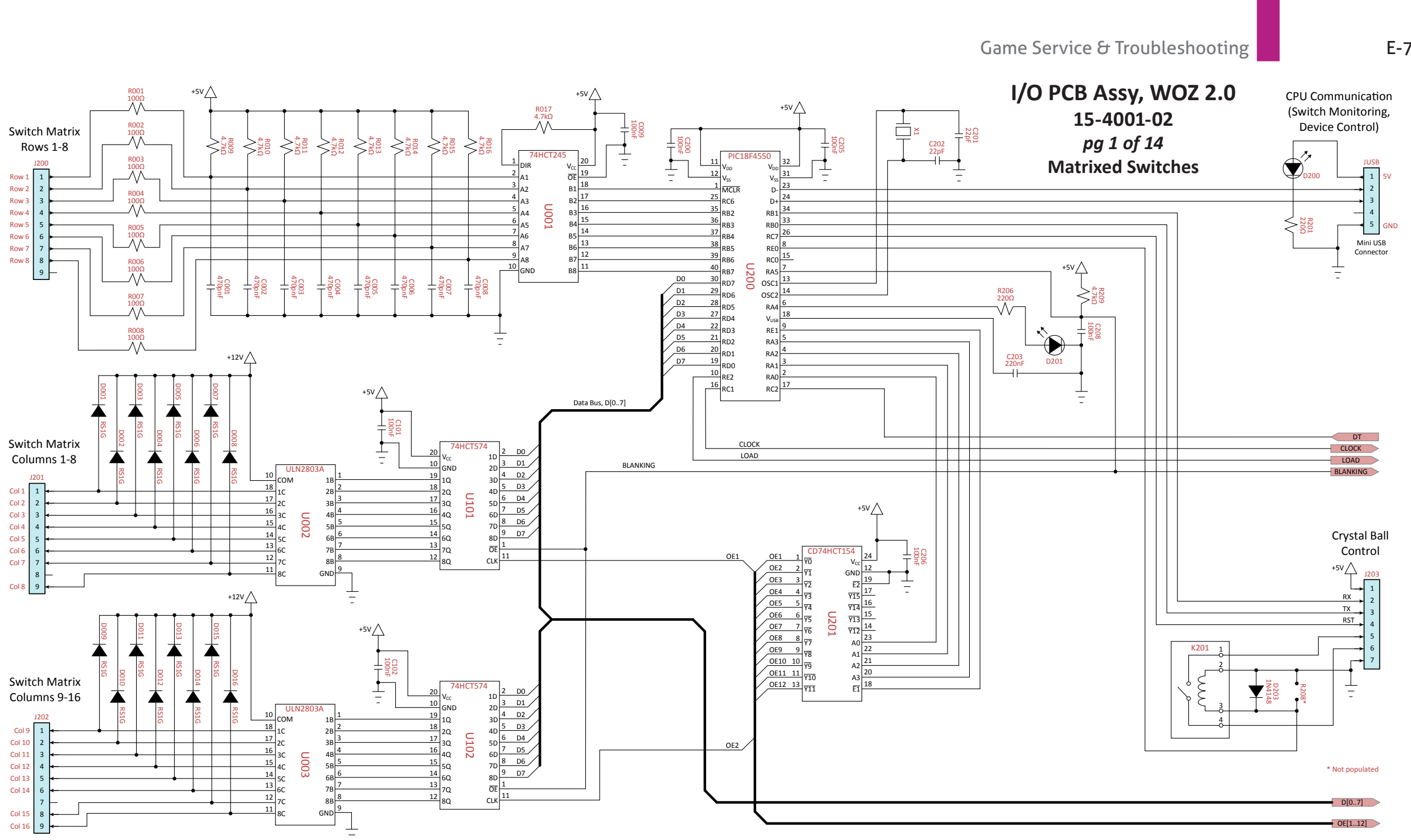
Component(s)	Part Number	Description
C704, C705	101-104K-630	Capacitor, MLCC, Leaded, 100nF, 630V, 10%
D203	110-1000-0S	Diode, 1N4148, SMT, 75V, 300mA
D303-D308, D313-D318, D323-D328, D334-D338, D401-D403, D405-D408, D411-D418, D421-D424, D431-D433, D501, D511-D517, D001-D016, D650, D651	110-5001-0S	Diode, RS1G, SMT, 400V, 1A, 150ns

Component(s)	Part Number	Description
D301, D302, D311, D312, D321, D322, D331-D333, D404, D425-D428, D434-D438, D502-D508, D518, D806-D810 D701-D714, D200, D203	24-0014-0S	Not Populated
F701, F702	170-0110-SM	LED, 0805 SMD, RED, 621nm
F703, F706, F707	170-0163-SM	Fuse, Time Delay, 10A, 250V, 5mm x 20mm
F704, F705, F708	170-0105-SM	Fuse, Time Delay, 6.3A, 250V, 5mm x 20mm
F710, F711, F712, F714	170-0105-SM	Fuse, Time Delay, 5A, 250V, 5mm x 20mm
F709	170-0104-SM	Fuse, Time Delay, 4A, 250V, 5mm x 20mm
F713	170-0103-SM	Fuse, Time Delay, 3A, 250V, 5mm x 20mm
F1, F2	170-0102-SM	Fuse, Time Delay, 2A, 250V, 5mm x 20mm
F701-F714	170-3202-SB	Fuse, Slow Blow, 2A, 32V, Mini Blade
F1, F2	22-8007-00	Fuse Holder, 5mm x 20mm, SMD, 250V, 10A
K201	22-8006-00	Fuse Holder, Mini Blade, 500V, 20A
Q303-Q308, Q313-Q318, Q323-Q328, Q334-Q338, Q401-Q403, Q405-Q408, Q411-Q418, Q421-Q424, Q431-Q433, Q501, Q511-Q517 Q301, Q302, Q311, Q312, Q321, Q322, Q331-Q333, Q404, Q425-Q428, Q434-Q438, Q502-Q508, Q518	160-0001-OT	Relay, Reed, SPST, Normally Open, 10W, 0.5A
R001-R008	130-0000-OT	MOSFET, IRL540, N-Ch, TO-220AB, 100V, 36A
R201, R206, R302-R307, R322-R327, R342-R347, R363-R367, R400-R402, R404-R407, R420-R427, R440-R443, R460-R462, R400, R500, R520-R526, R600-R607, R620-R627, R640-R647, R660-R667 R209, R802, R009-R017 R310-R315, R330-R334, R350-R355, R371-R375, R408-R410, R412-R415, R428-R435, R448-R451, R468-R470, R508, R528-R535, R608-R615, R628-R635, R648-R655, R668-R675,	120-0100-254	Not Populated
		Resistor, 0805 SMT, 100Ω, 0.25W, 5%
	120-0220-254	Resistor, 0805 SMT, 220Ω, 0.25W, 5%
	120-04K7-254	Resistor, 0805 SMT, 4.7kΩ, 0.25W, 5%
	120-010K-254	Resistor, 0805 SMT, 10kΩ, 0.25W, 5%

Component(s)	Part Number	Description
R701, R702, R724-R728	121-06K8-2H4	Resistor, Leaded, 6.8kΩ, 2W, 5%
R703, R730-R732	121-02K7-2H4	Resistor, Leaded, 2.7kΩ, 2W, 5%
R704, R729, R733	121-01K2-2H4	Resistor, Leaded, 1.2kΩ, 2W, 5%
R708, R709	121-0470-2H4	Resistor, Leaded, 470Ω, 2W, 5%
R208, R300, R301, R320, R321, R340, R341, R360-R362, R403, R444-R447, R463-R467, R501-R507, R527, R308, R309, R328, R329, R348, R349, R368-R370, R411, R452-R455, R471-R475, R509-R515, R535 R800, R801, R803-R811		Not Populated
U001	141-0008-0S	Octal Bus XCVRs w/3-State Outputs, 74HCT245, SOIC-20 SMT
U002, U003	141-0009-0S	Darlington Transistor Array, ULN2803A, SOIC-18 SMT, NPN
U101-U112	141-0010-0S	Octal D-Type Flip-Flops w/3-State Outputs, 74HCT574, SOIC-20 SMT
U200	141-0011-0T	Microcontroller, 8-Bit, USB, 48MHz, PIC18F4550, PDIP-40
U200	31-3000-0T	DIP Socket, 40-pin, 2.54mm Pitch
U201	141-0012-0S	4- to 16-Line Decoder, CMOS, CD74HCT154, SOIC-24 SMT
U601-U604	141-0013-0S	Shift Register, Serial/Parallel to Serial, 8-Bit, 74HCT165, SOIC-16 SMT
U800, U801		Not Populated
X1	160-0002-0S	Crystal, 8MHz, ATSO8ASM-1E, SMT, 20pF, 30PPM
X800		Not Populated
J104-J113	31-2505-10	Header, Male, 10-pin, 3.96mm
J200, J201, J202	31-2504-09	Header, Male, 9-pin, 2.54mm
J203	31-2501-07	Header, Male, 7-pin, Rt Angle, 2.54mm
J601-J604	31-2504-10	Header, Male, 10-pin, 2.54mm
J701	31-2506-06	Header, Male, 6-pin, .250" Centerline
J702	31-2506-04	Header, Male, 4-pin, .250" Centerline
J800, J802, J804		Not Populated
JUSB	31-2507-00	Receptacle, Mini USB 2.0, Type B, SMT
PWR1	31-2502-04	Connector Header, Male, 4-pin, Power

Game Service & Troubleshooting

E-7

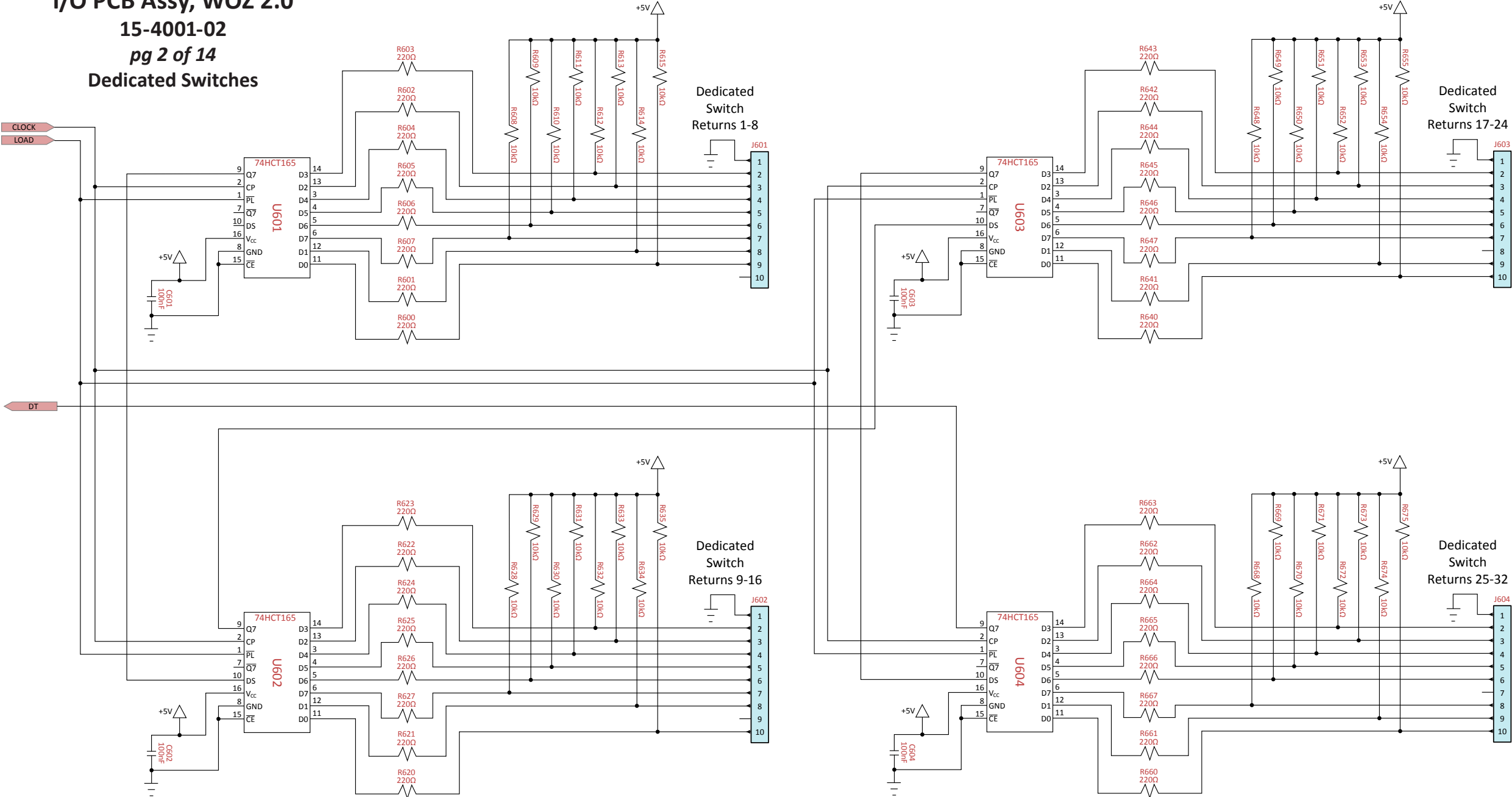


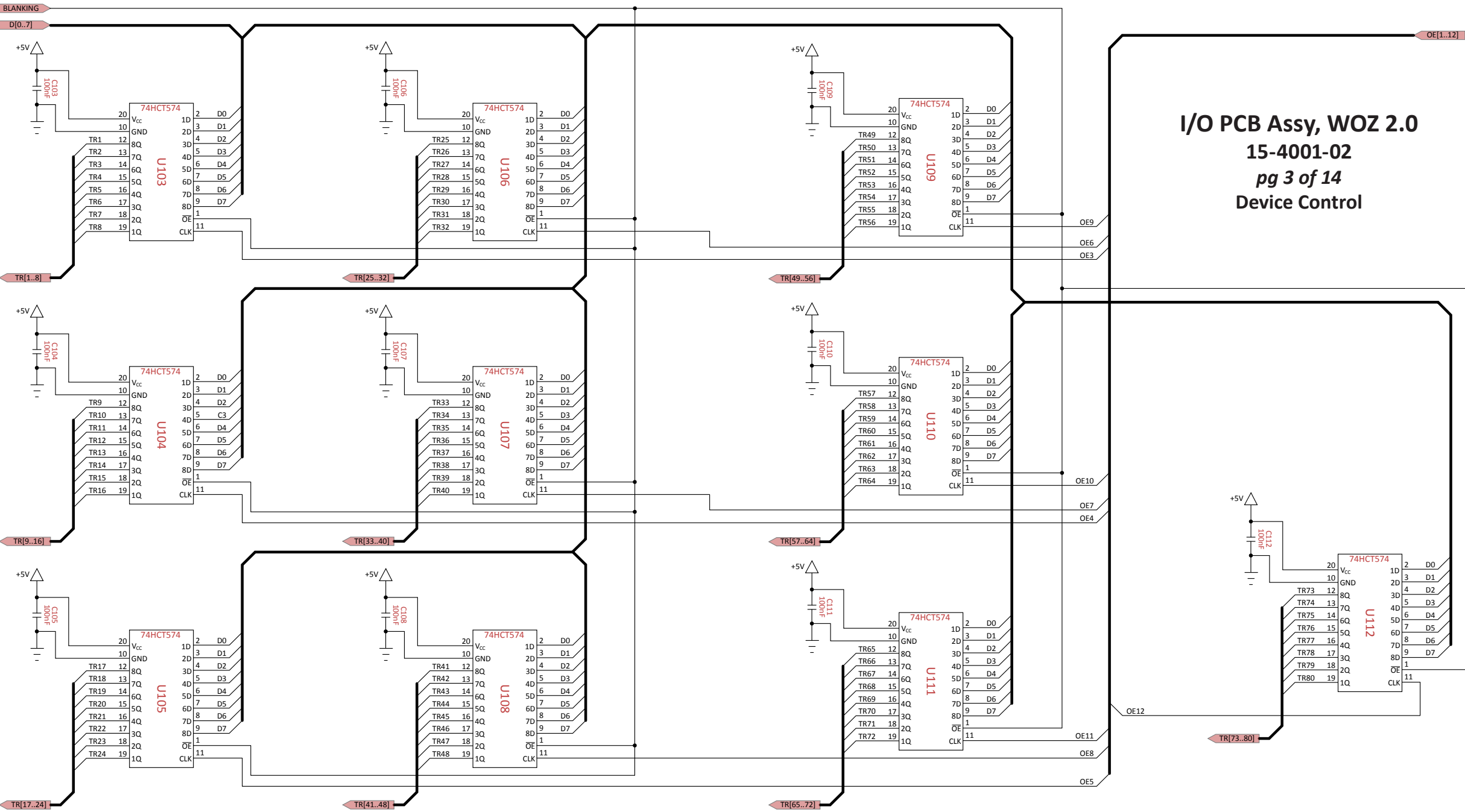
I/O PCB Assy, WOZ 2.0

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Dedicated Switches





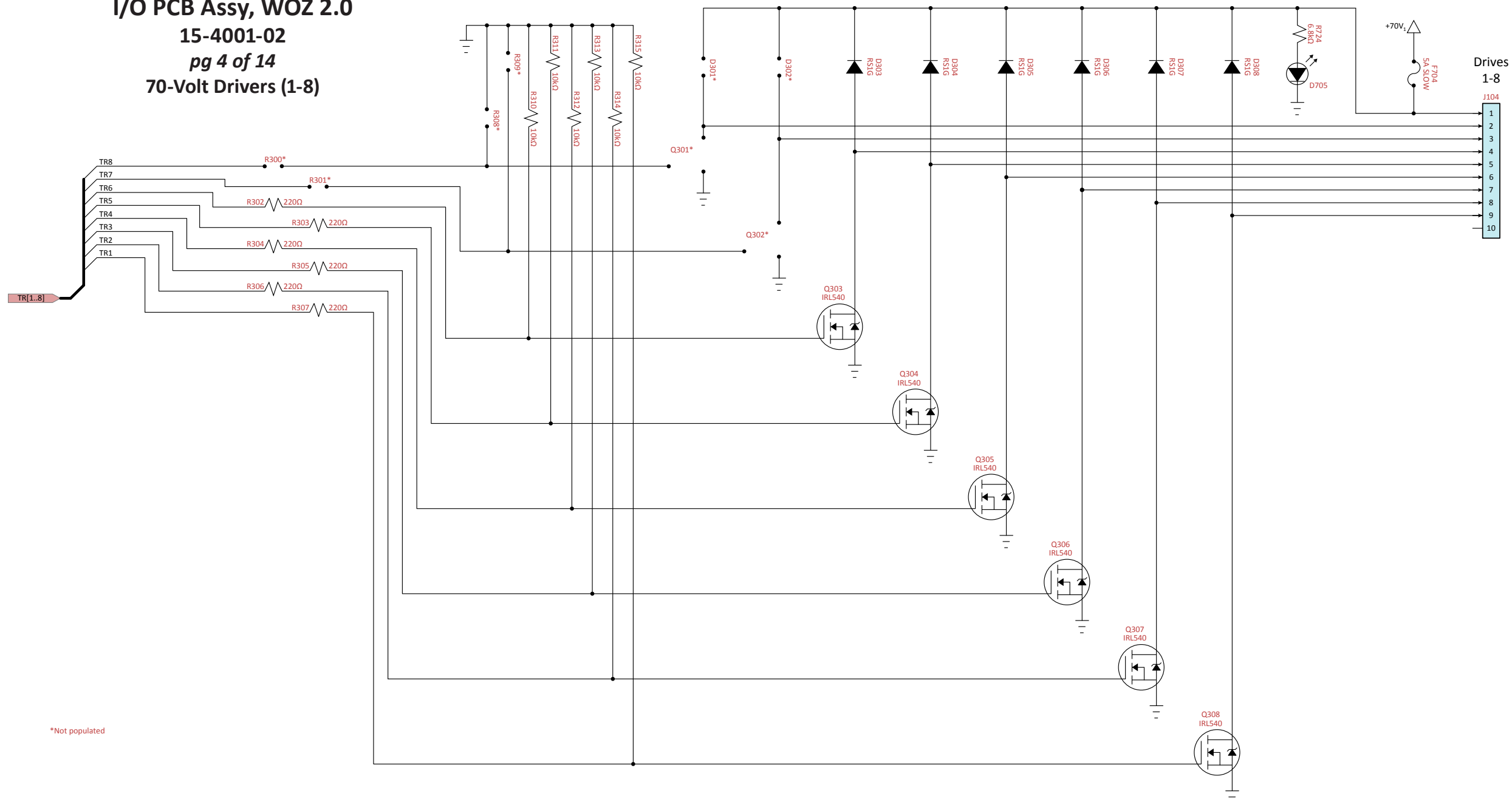
I/O PCB Assy, WOZ 2.0
15-4001-02
pg 3 of 14
Device Control

I/O PCB Assy, WOZ 2.0

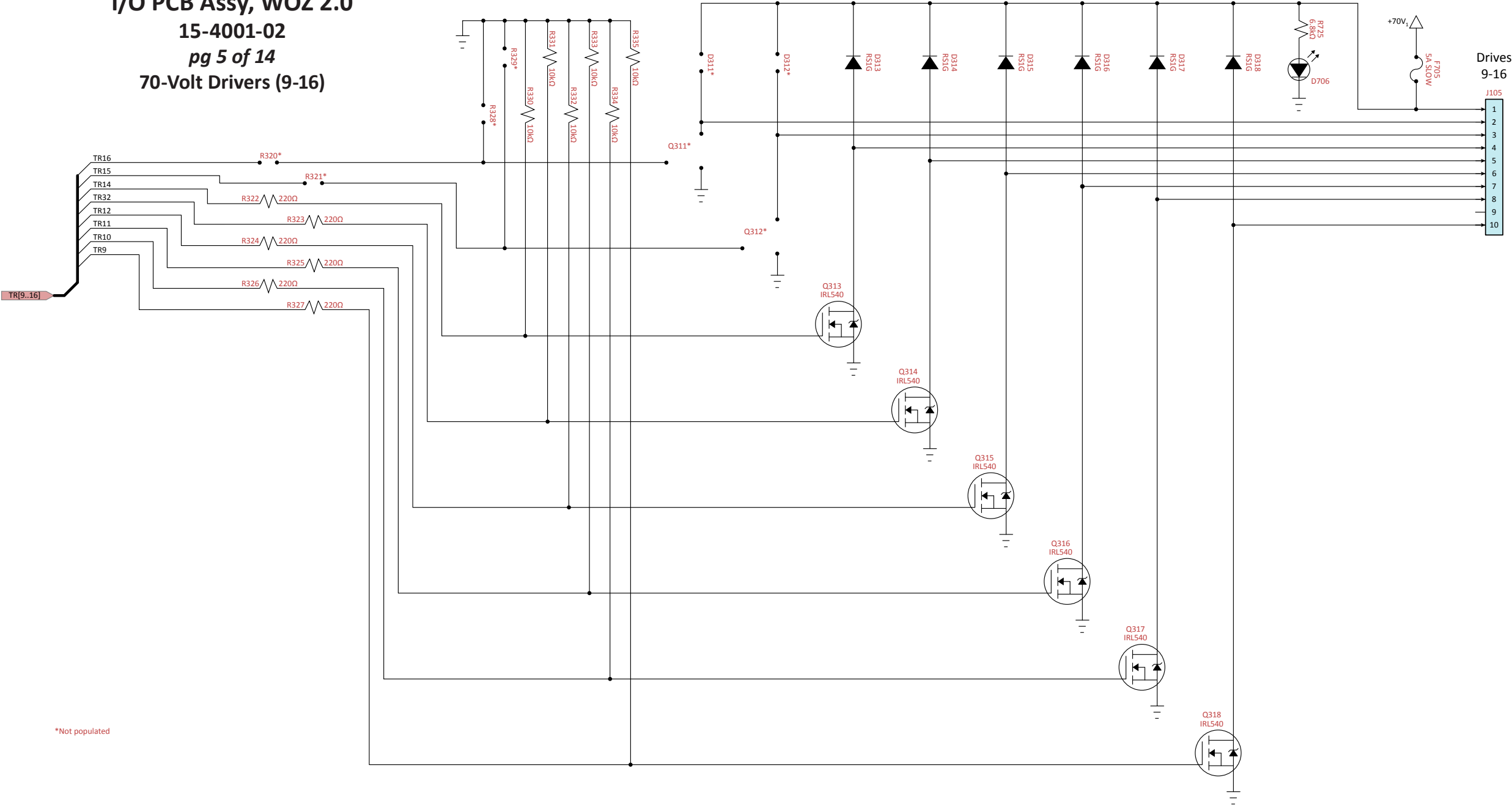
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70-Volt Drivers (1-8)

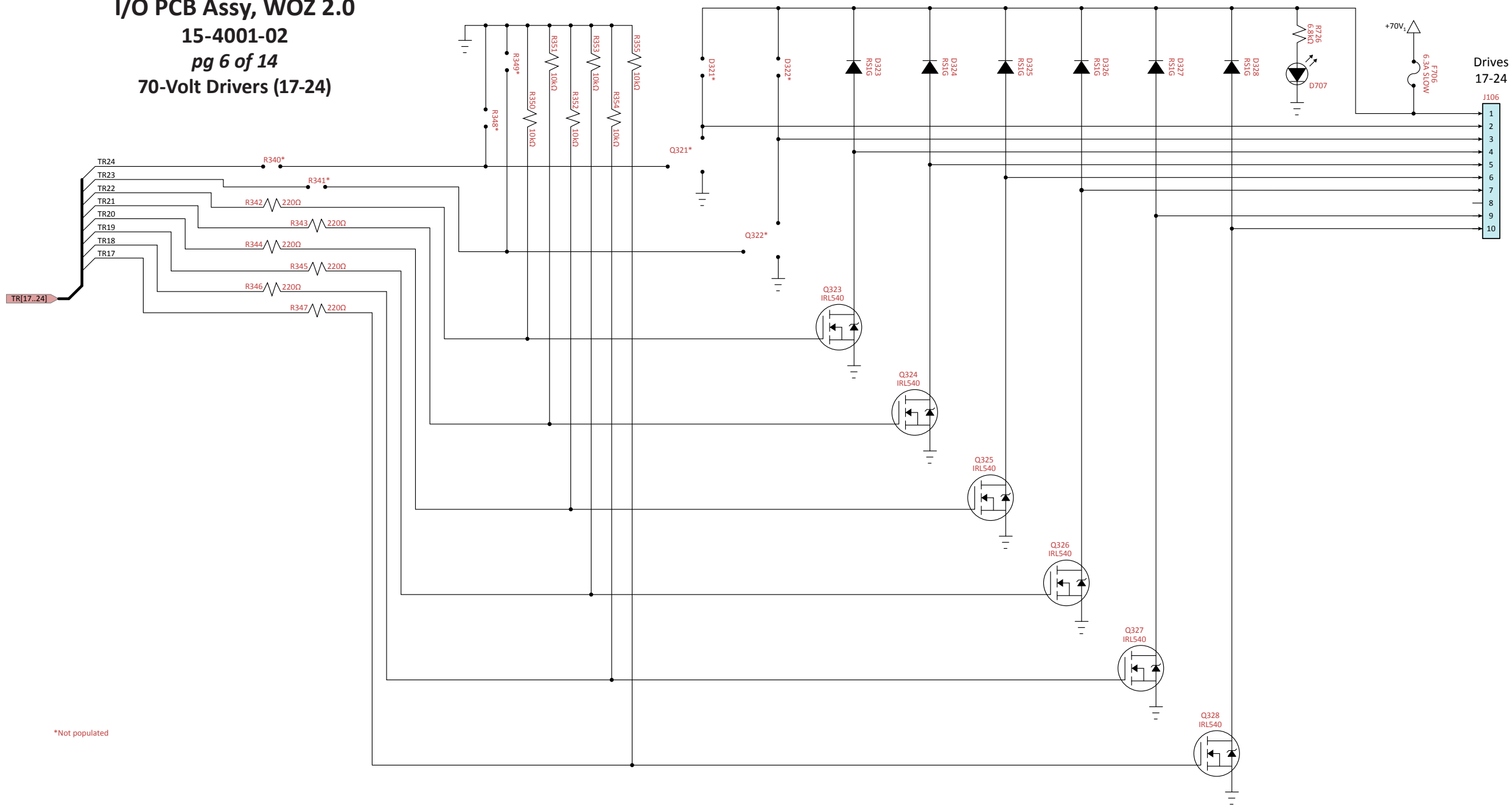


I/O PCB Assy, WOZ 2.0
15-4001-02
pg 5 of 14
70-Volt Drivers (9-16)



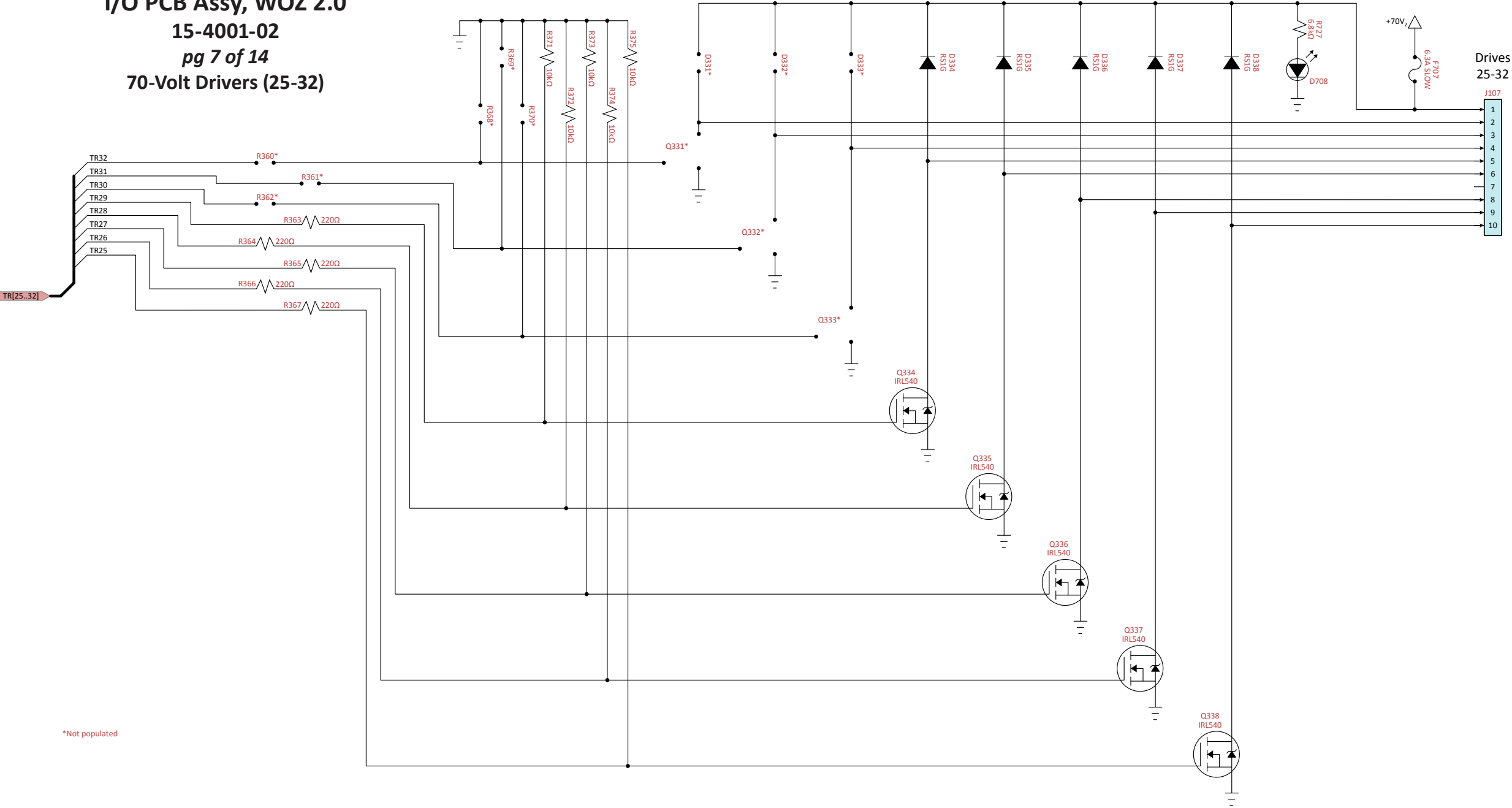
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I/O PCB Assy, WOZ 2.0
15-4001-02
pg 6 of 14
70-Volt Drivers (17-24)



*Not populated

I/O PCB Assy, WOZ 2.0
15-4001-02
pg 7 of 14
70-Volt Drivers (25-32)



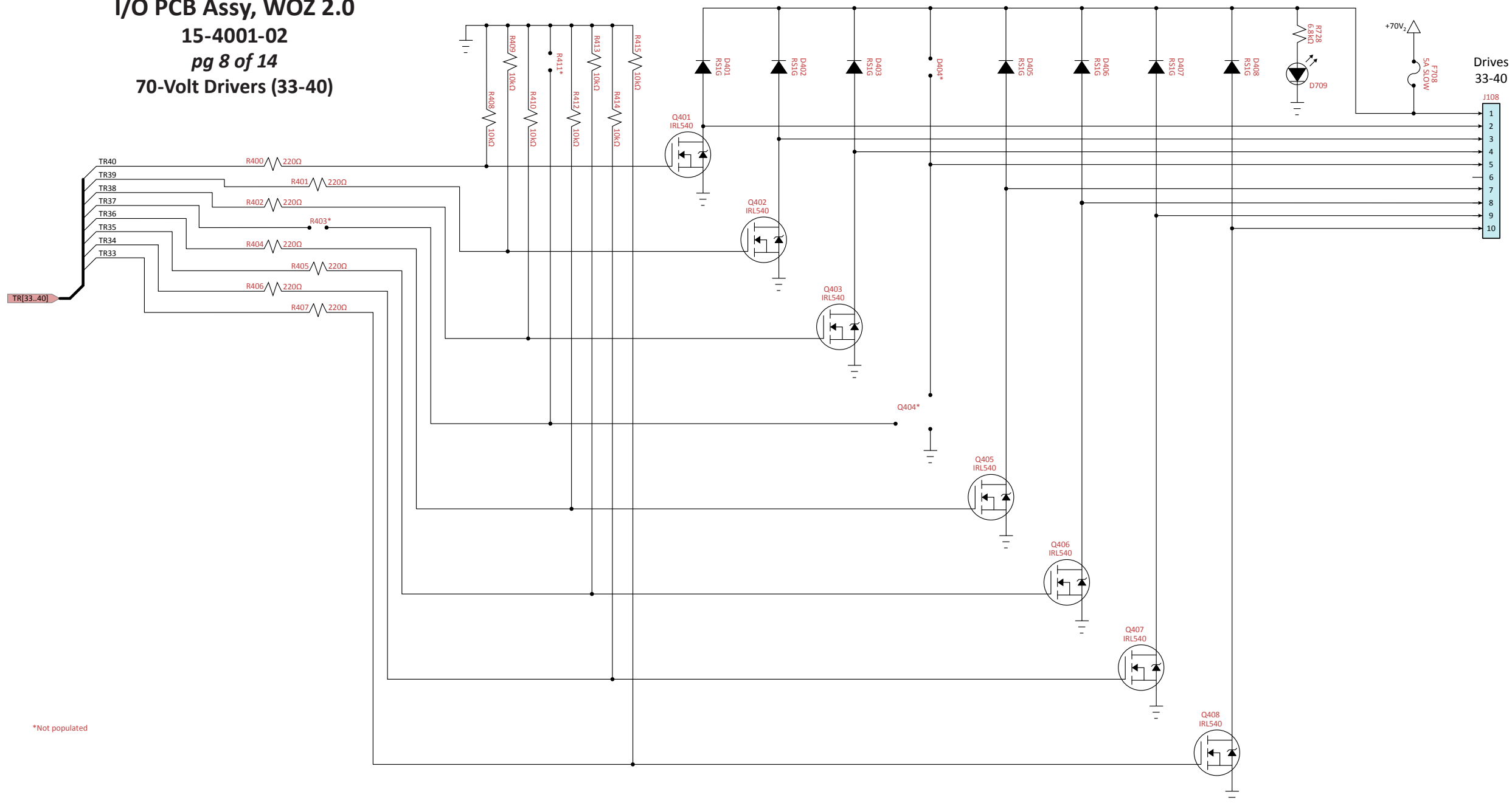
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I/O PCB Assy, WOZ 2.0

15-4001-02

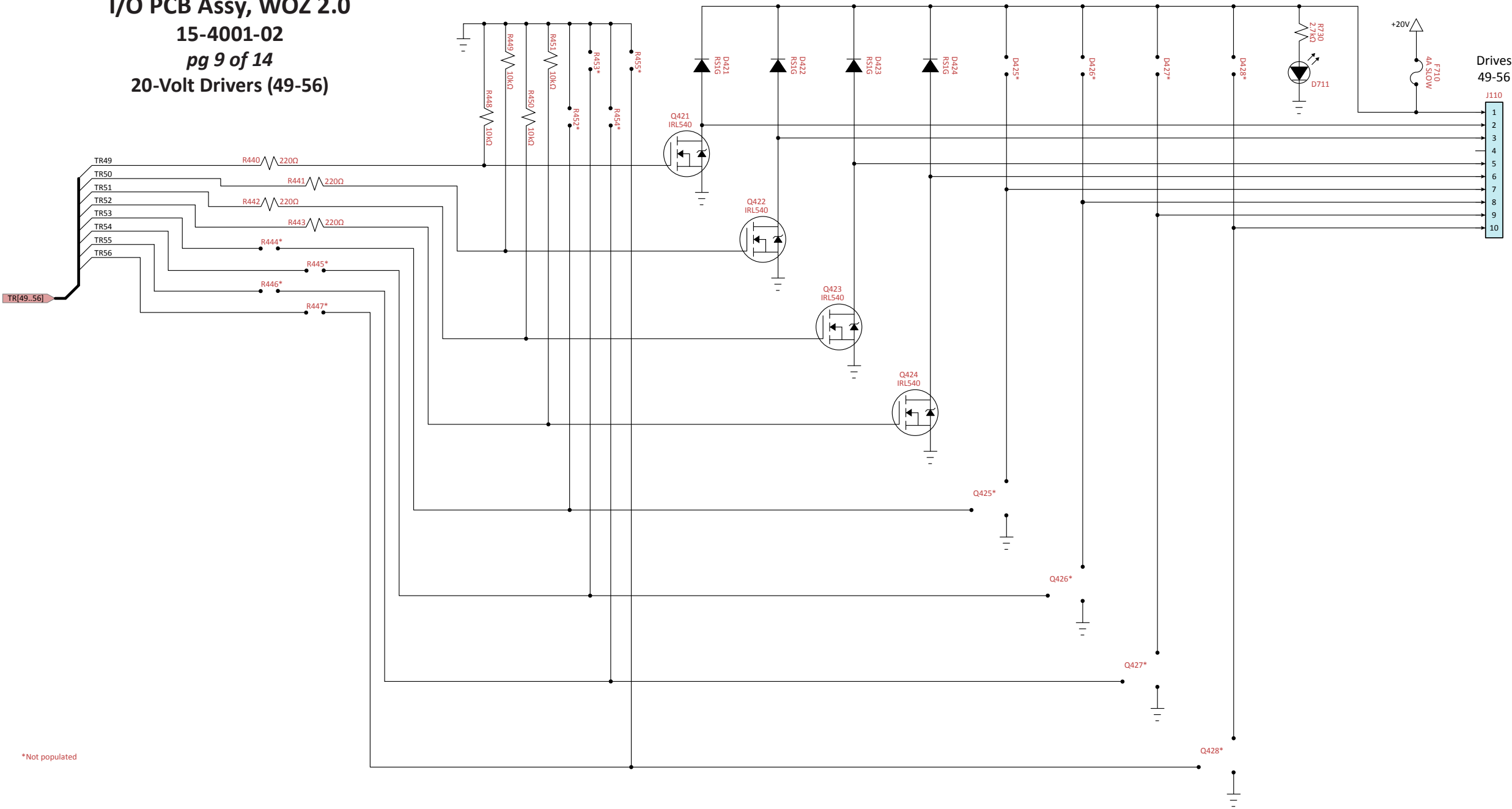
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70-Volt Drivers (33-40)



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I/O PCB Assy, WOZ 2.0
15-4001-02
pg 9 of 14
20-Volt Drivers (49-56)



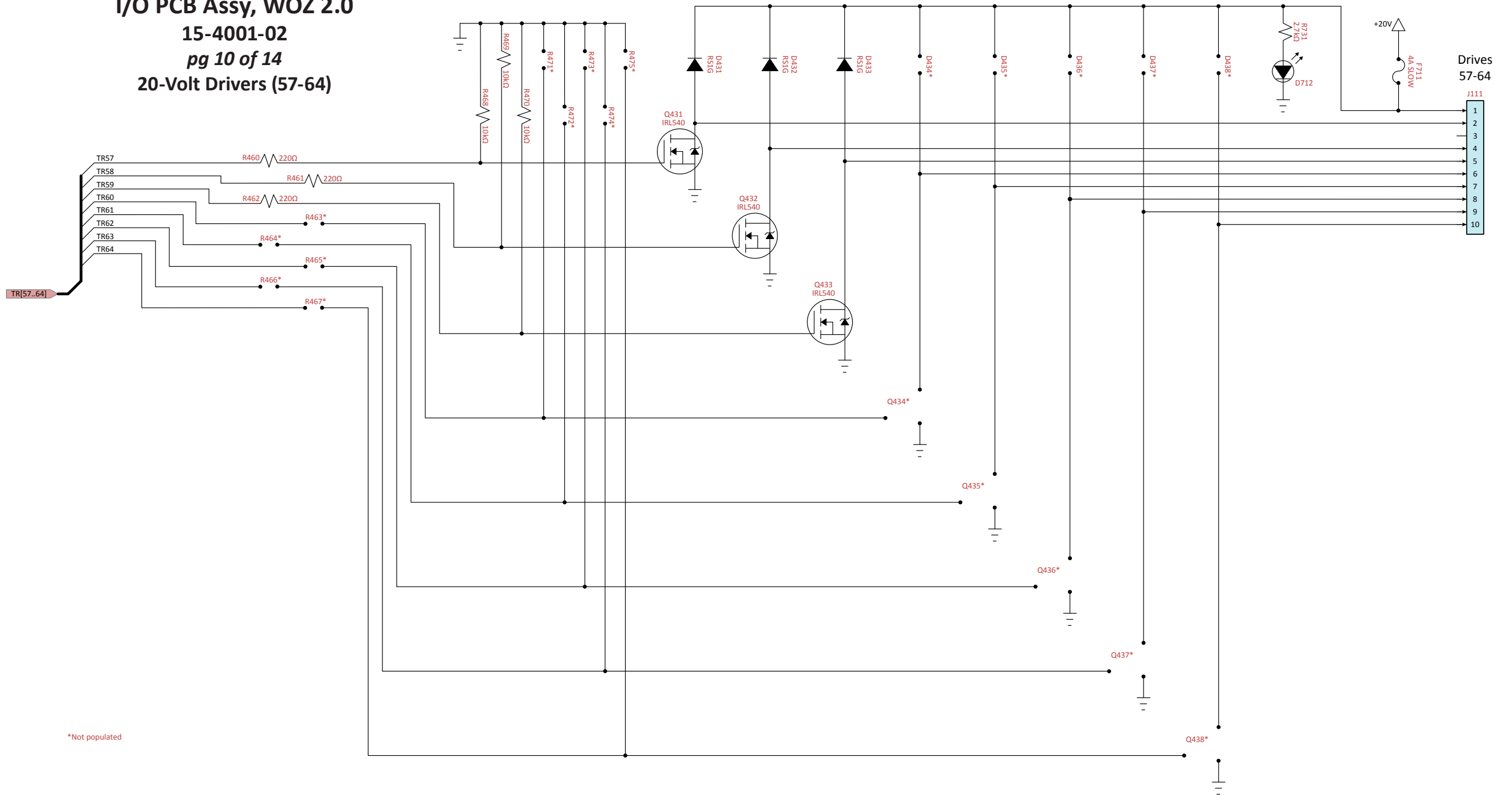
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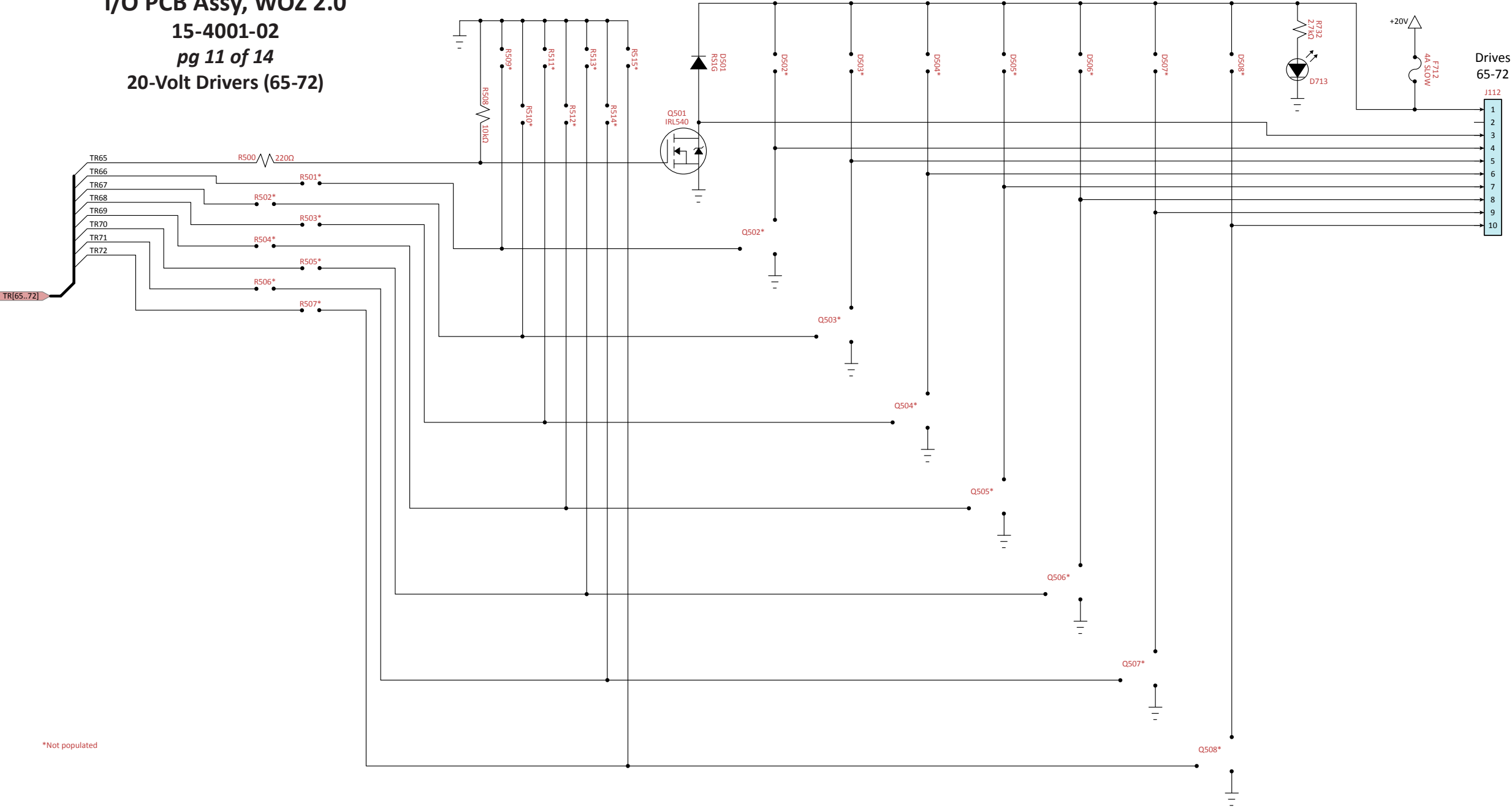
15-4001-02

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20-Volt Drivers (57-64)

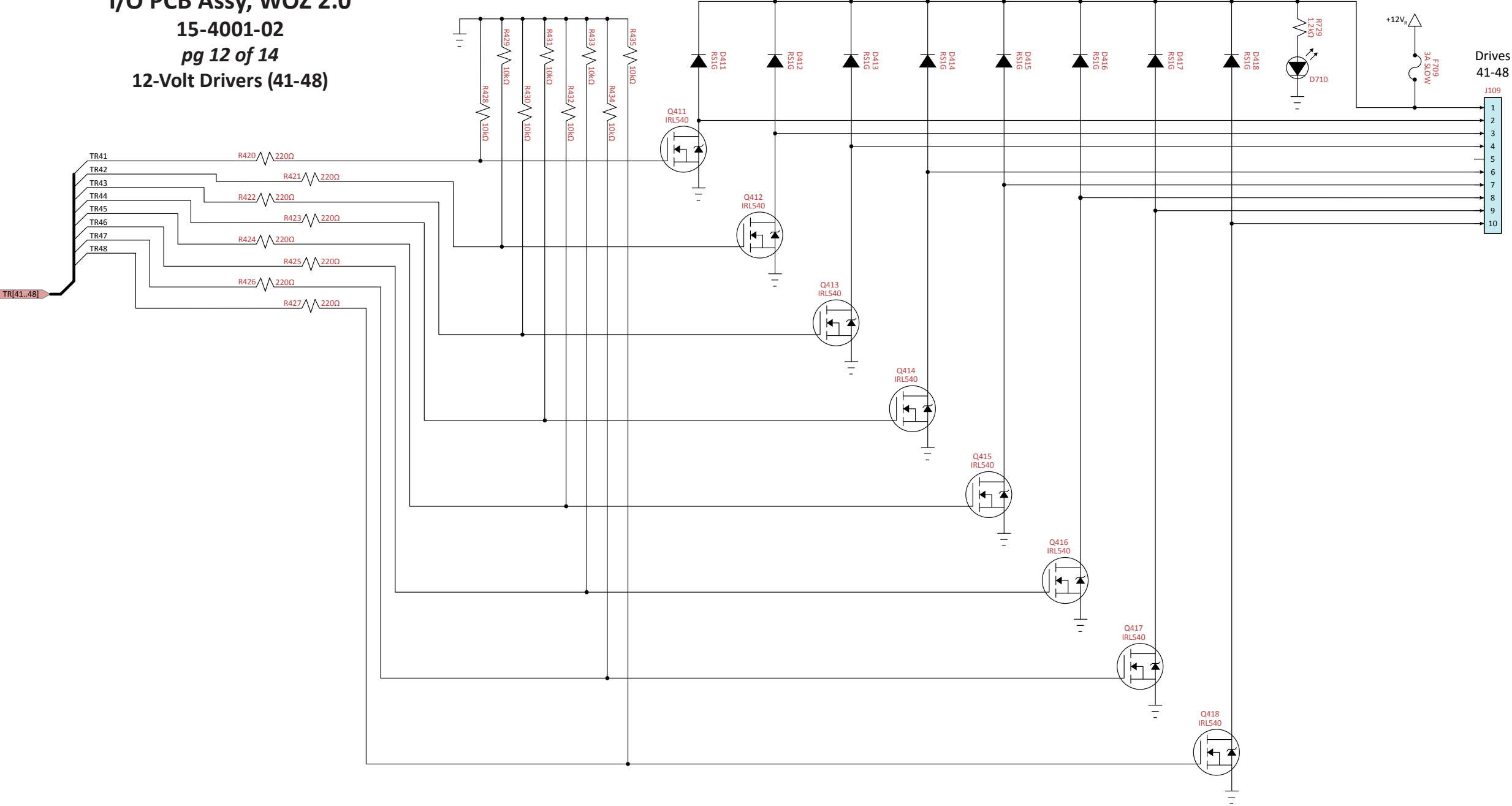


I/O PCB Assy, WOZ 2.0
15-4001-02
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20-Volt Drivers (65-72)



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I/O PCB Assy, WOZ 2.0
15-4001-02
pg 12 of 14
12-Volt Drivers (41-48)

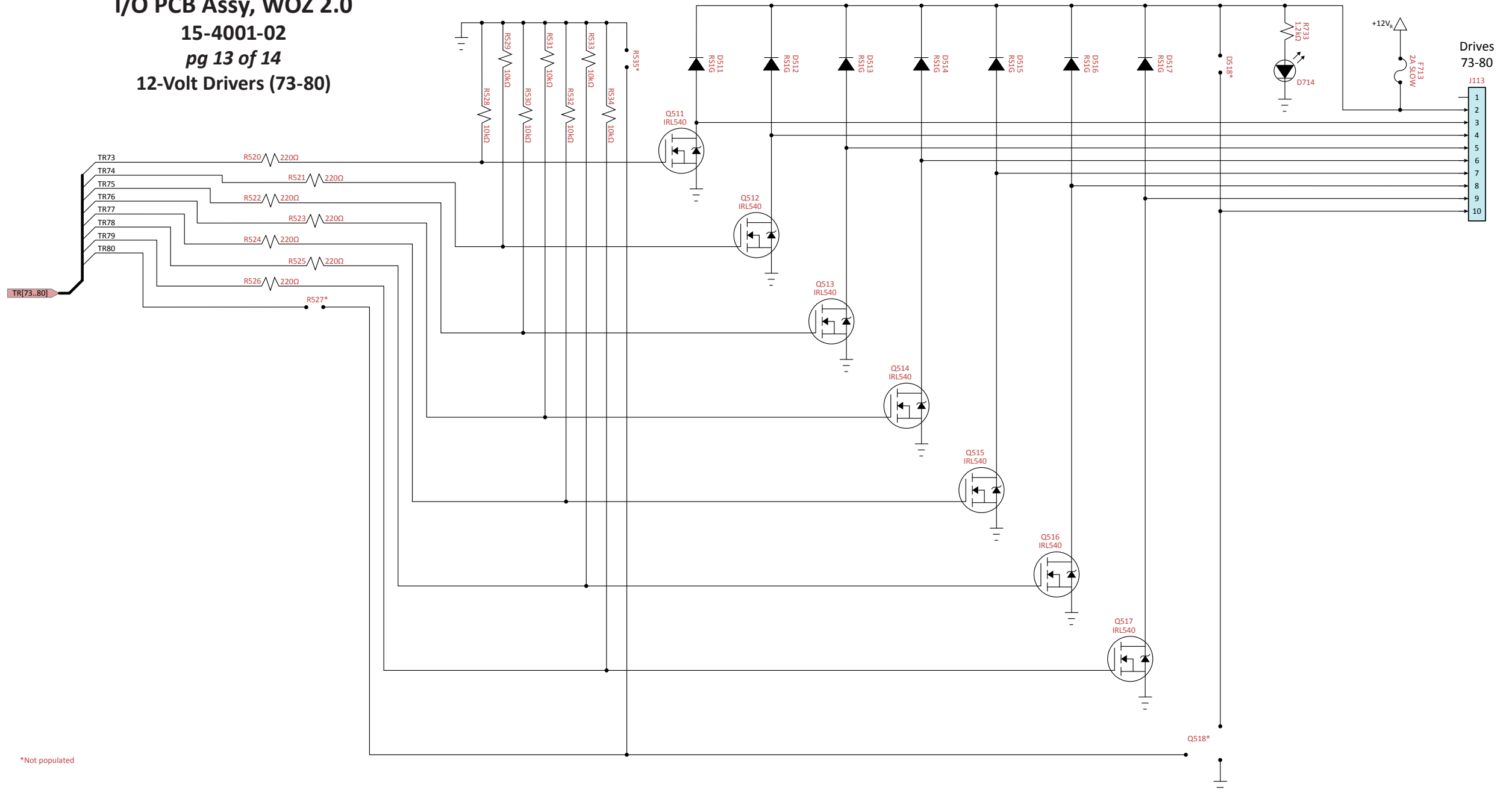


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15-4001-02

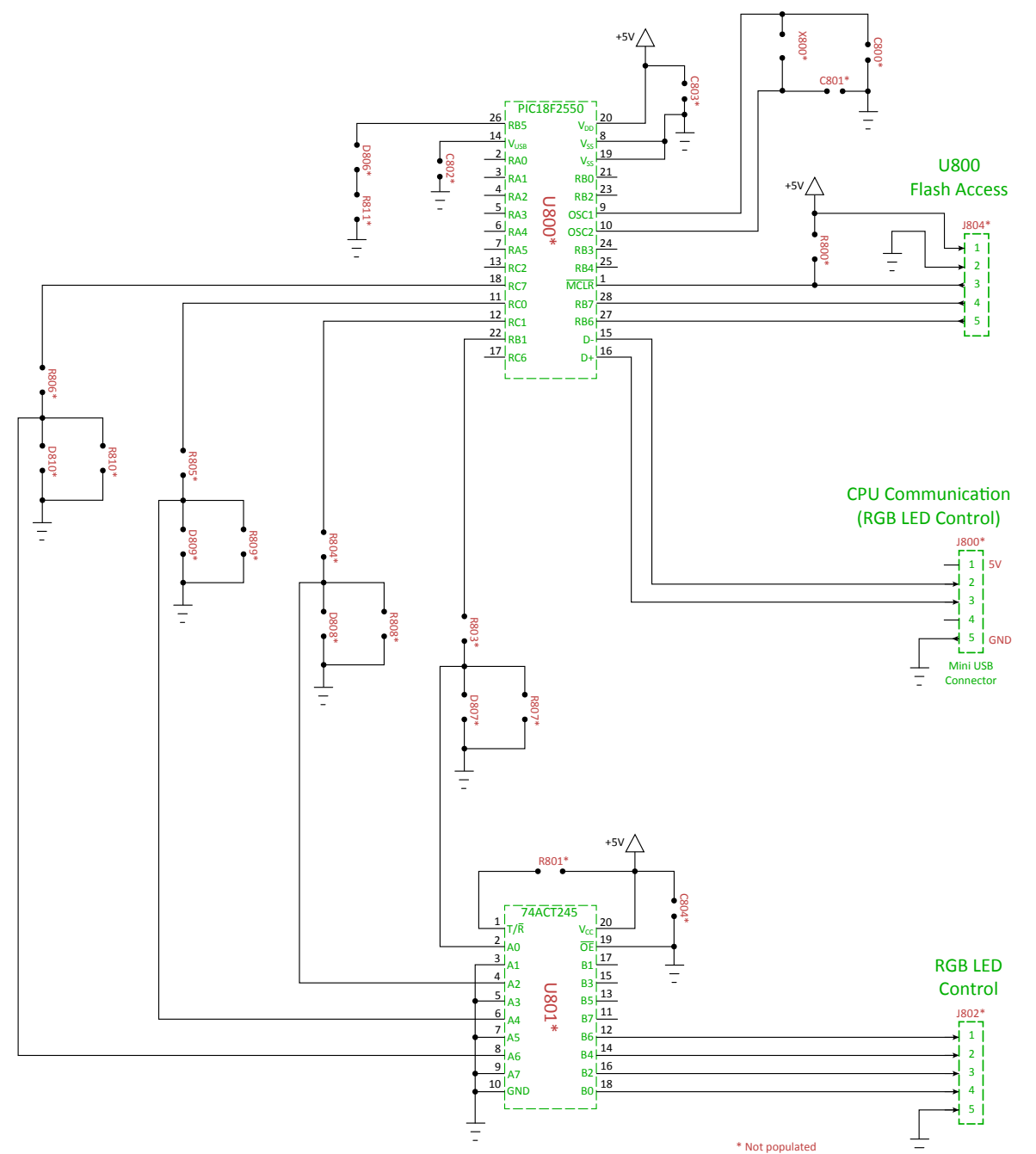
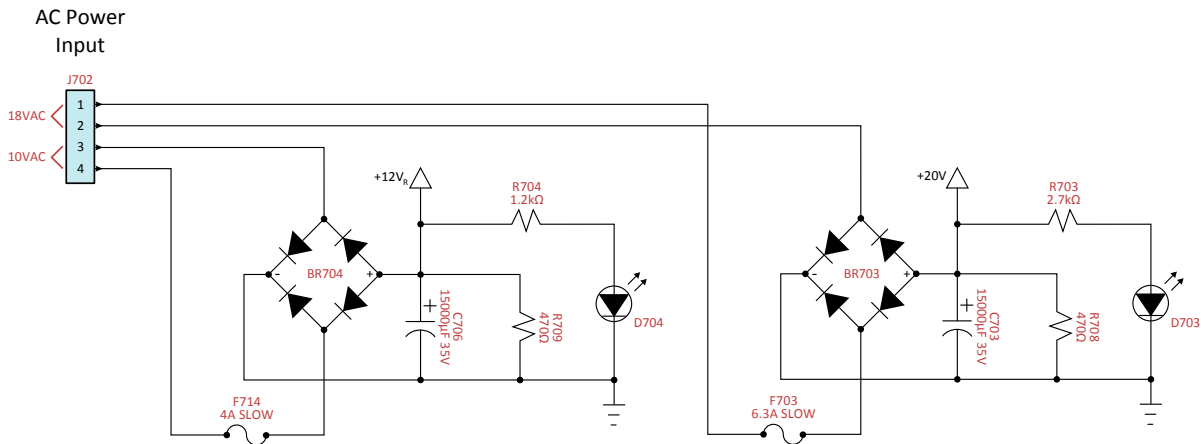
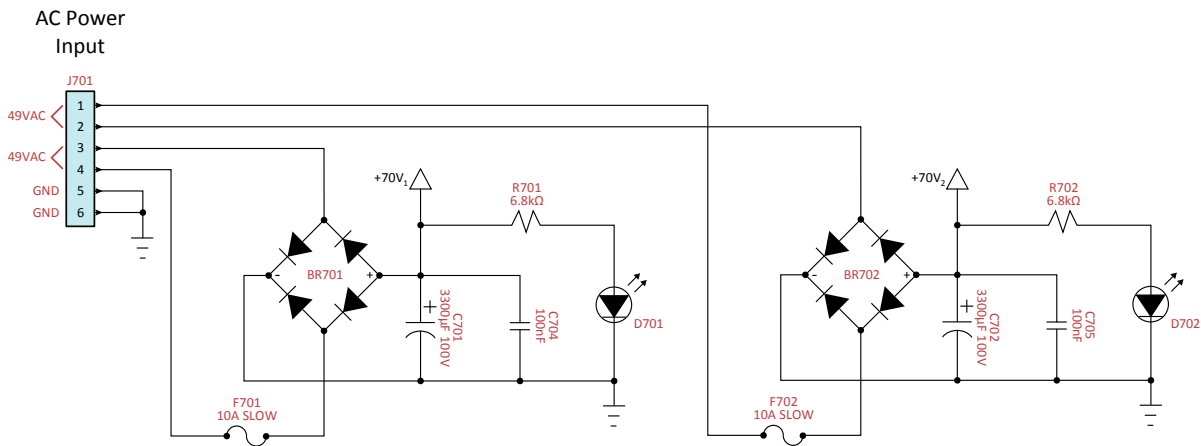
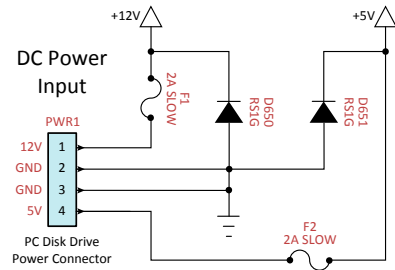
pg 13 of 14

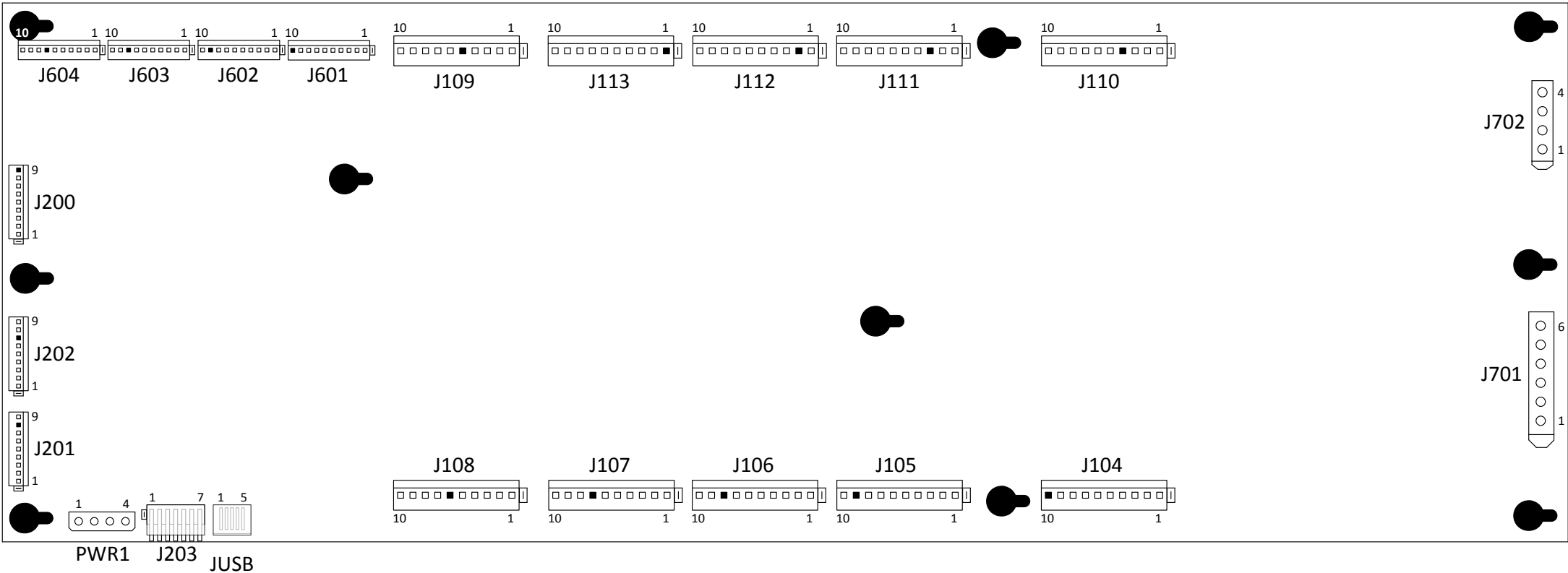
12-Volt Drivers (73-80)



*Not populated

I/O PCB Assy, WOZ 2.0 15-4001-02 pg 14 of 14 Power & RGB LED Control





I/O PCB Assy, WOZ 2.0, 15-4001-02
Connector Pin-outs

J104 70-Volt Coil Drives (1-8)

J104-1	BRN	+70VDC supply to coils below
J104-2	Not Used	
J104-3	Not Used	
J104-4	BRN-GRN	Coil drive 6 [Crystal Ball VUK]
J104-5	BRN-YEL	Coil drive 5 [Winkie Guard VUK]
J104-6	BRN-ORN	Coil drive 4 [State Fair Balloon Bumper]
J104-7	BRN-RED	Coil drive 3 [Center Tree Bumper]
J104-8	BRN-GRY	Coil drive 2 [Right Tree Bumper]
J104-9	BRN-BLK	Coil drive 1 [Left Tree Bumper]
J104-10	Key	

J105 70-Volt Coil Drives (9-16)

J105-1	RED	+70VDC supply to coils below
J105-2	Not Used	
J105-3	Not Used	
J105-4	RED-GRN	Coil drive 14 [Upper Right Flipper Hold]
J105-5	RED-YEL	Coil drive 13 [Upper Right Flipper Power]
J105-6	RED-ORN	Coil drive 12 [Right Flipper Hold]
J105-7	RED-GRY	Coil drive 11 [Right Flipper Power]
J105-8	RED-BRN	Coil drive 10 [Left Flipper Hold]
J105-9	Key	
J105-10	RED-BLK	Coil drive 9 [Left Flipper Power]

J106 70-Volt Coil Drives (17-24)

J106-1	ORN	+70VDC supply to coils below
J106-2	Not Used	
J106-3	Not Used	
J106-4	ORN-GRN	Coil drive 22 [5-Ball Trough VUK]
J106-5	ORN-YEL	Coil drive 21 [Ball Auto-Launch]
J106-6	ORN-GRY	Coil drive 20 [Drop Target Reset (Up)]
J106-7	ORN-RED	Coil drive 19 [Throne Room VUK]
J106-8	Key	
J106-9	ORN-BRN	Coil drive 18 [Ramp Ball Lock]
J106-10	ORN-BLK	Coil drive 17 [Ball Diverter]

J107 70-Volt Coil Drives (25-32)

J107-1	TAN	+70VDC supply to magnets below
J107-2	Not Used	
J107-3	Not Used	
J107-4	Not Used	
J107-5	TAN-YEL	Coil drive 29 [Monkey Magnet]
J107-6	TAN-ORN	Coil drive 28 [Right Orbit Magnet]
J107-7	Key	
J107-8	TAN-RED	Coil drive 27 [Top Lanes Magnet]
J107-9	TAN-BRN	Coil drive 26 [Witch Bottom Magnet]
J107-10	TAN-BLK	Coil drive 25 [Witch Top Magnet]

J108 70-Volt Coil Drives (33-40)

J108-1	PNK	+70VDC supply to coils below
J108-2	PNK-VIO	Coil drive 40 [Top Lanes Slingshot]
J108-3	PNK-BLU	Coil drive 39 [Right Slingshot]
J108-4	PNK-GRN	Coil drive 38 [Left Slingshot]
J108-5	Not Used	
J108-6	Key	
J108-7	PNK-ORN	Coil drive 36 [Munchkinland Flipper Hold]
J108-8	PNK-RED	Coil drive 35 [Munchkinland Flipper Power]
J108-9	PNK-BRN	Coil drive 34 [Castle Flipper Hold]
J108-10	PNK-BLK	Coil drive 33 [Castle Flipper Power]

J109 12-Volt Coil Drives (41-48)

J109-1	YEL	+12VDC supply to motors/relays below
J109-2	YEL-BLK	Coil drive 41 [House Motor]
J109-3	YEL-BRN	Coil drive 42 [Shaker Motor]
J109-4	YEL-RED	Coil drive 43 [Monkey Motor], Motor Relay Board, J1-3
J109-5	Key	
J109-6	YEL-ORN	Coil drive 44 [Monkey Motor Relay], Motor Relay Board, J1-2
J109-7	YEL-GRY	Coil drive 45 [Witch Stepper Motor 1]
J109-8	YEL-GRN	Coil drive 46 [Witch Stepper Motor 2]
J109-9	YEL-BLU	Coil drive 47 [Witch Stepper Motor 3]
J109-10	YEL-VIO	Coil drive 48 [Witch Stepper Motor 4]

J110 20-Volt Coil Drives (49-56)

J110-1	PLM	+20VDC supply to coils below
J110-2	PLM-BLK	Coil drive 49 [Drop Target Retract (Down)]
J110-3	PLM-BRN	Coil drive 50 [Castle Doors VUK]
J110-4	Key	
J110-5	PLM-RED	Coil drive 51 [Castle Double Doors Latch]
J110-6	PLM-ORN	Coil drive 52 [House Wall Drop]
J110-7	Not Used	
J110-8	Not Used	
J110-9	Not Used	
J110-10	Not Used	

J111 20-Volt Coil Drives (57-64)

J111-1	BLU	+20VDC supply to motors below
J111-2	BLU-BLK	Coil drive 57 [Castle Single Door Motor]
J111-3	Key	
J111-4	BLU-BRN	Coil drive 58 [Castle Double Doors Motor, Left]
J111-5	BLU-RED	Coil drive 59 [Castle Double Doors Motor, Right]
J111-6	Not Used	
J111-7	Not Used	
J111-8	Not Used	
J111-9	Not Used	
J111-10	Not Used	

J112 20-Volt Coil Drives (65-72)

J112-1	VIO	+20VDC supply to coil below
J112-2	Key	
J112-3	VIO-BLK	Coil drive 65 [Knocker]
J112-4	Not Used	
J112-5	Not Used	
J112-6	Not Used	
J112-7	Not Used	
J112-8	Not Used	
J112-9	Not Used	
J112-10	Not Used	

J113 12-Volt Coil Drives (73-80)

J113-1	Key	
J113-2	LT BLU	+12VDC supply to lights below
J113-3	LT BLU-BLK	Coil drive 73 [Oz Head Light]
J113-4	LT BLU-BRN	Coil drive 74 [Topper Light]
J113-5	Not Used	
J113-6	LT BLU-ORN	Coil drive 76 [Spotlights (3 Total)]
J113-7	LT BLU-YEL	Coil drive 77 [Witch LED, Right]
J113-8	LT BLU-GRN	Coil drive 78 [Witch LED, Left]
J113-9	LT BLU-GRY	Coil drive 79 [Start Button Light]
J113-10	Not Used	

J200 Matrixed Switches, Rows

J200-1	WHT-BLK	Row 1 to playfield switches
J200-2	WHT-BRN	Row 2 to playfield switches
J200-3	WHT-RED	Row 3 to playfield switches
J200-4	WHT-ORN	Row 4 to playfield switches
J200-5	WHT-YEL	Row 5 to playfield switches
J200-6	WHT-GRN	Row 6 to playfield switches
J200-7	WHT-BLU	Row 7 to playfield switches
J200-8	WHT-VIO	Row 8 to playfield switches
J200-9	Key	

J201 Matrixed Switches, Columns (1-8)

J201-1	GRN-BLK	Column 1 to playfield switches
J201-2	GRN-BRN	Column 2 to playfield switches
J201-3	GRN-RED	Column 3 to playfield switches
J201-4	GRN-ORN	Column 4 to playfield switches
J201-5	GRN-YEL	Column 5 to playfield switches
J201-6	GRN-GRY	Column 6 to playfield switches
J201-7	GRN-BLU	Column 7 to playfield switches
J201-8	Key	
J201-9	GRN-VIO	Column 8 to playfield switches

J202 Matrixed Switches, Columns (9-16)

J202-1	GRY-BLK	Column 9 to playfield switches
J202-2	GRY-BRN	Column 10 to playfield switches
J202-3	GRY-RED	Column 11 to playfield switches
J202-4	GRY-ORN	Column 12 to playfield switches
J202-5	GRY-YEL	Column 13 to playfield switches
J202-6	Not Used	
J202-7	Key	
J202-8	Not Used	
J202-9	Not Used	

J203 Crystal Ball Control

J203-1	BLU	+5VDC to Crystal Ball PCB (above playfield)
J203-2	WHT	Control signals to Crystal Ball PCB
J203-3	BLU-WHT	Control signals to Crystal Ball PCB
J203-4	WHT-BLU	Control signals to Crystal Ball PCB
J203-5	Not Used	
J203-6	Not Used	
J203-7	BLK	Ground (cable shield) to Crystal Ball PCB

J601 Dedicated Switches (1-8)

J601-1	BLK	Dedicated switch common (Ground)
J601-2	BLK-YEL	Dedicated switch return 5 [Munchkinland Flipper EOS]
J601-3	BLK-GRN	Dedicated switch return 6 [Monkey Magnet Sense]
J601-4	BLK-ORN	Dedicated switch return 4 [Castle Flipper EOS]
J601-5	BLK-RED	Dedicated switch return 3 [Upper Right Flipper EOS]
J601-6	BLK-BRN	Dedicated switch return 2 [Right Flipper EOS]
J601-7	BLK-GRY	Dedicated switch return 1 [Left Flipper EOS]
J601-8	Not Used	
J601-9	Not Used	
J601-10	Key	

J602 Dedicated Switches (9-16)

J602-1	BLK	Dedicated switch common (Ground)
J602-2	YEL-GRY	Dedicated switch return 13 [Enter/Menu Button]
J602-3	YEL-GRN	Dedicated switch return 14 [Up/Volume+ Button]
J602-4	YEL-ORN	Dedicated switch return 12 [Castle Flipper EOS]
J602-5	YEL-RED	Dedicated switch return 11 [Upper Right Flipper EOS]
J602-6	YEL-BRN	Dedicated switch return 10 [Right Flipper EOS]
J602-7	YEL-BLK	Dedicated switch return 9 [Left Flipper EOS]
J602-8	YEL-BLU	Dedicated switch return 15 [Down/Volume- Button]
J602-9	Key	
J602-10	YEL-VIO	Dedicated switch return 16 [Escape/Service Credit Button]

J603 Dedicated Switches (17-24)

J603-1	BLK	Dedicated switch common (Ground)
J603-2	BLU-YEL	Dedicated switch return 21 [5th Coin Slot Switch]
J603-3	BLU-GRN	Dedicated switch return 22 [6th Coin Slot Switch]
J603-4	BLU-ORN	Dedicated switch return 20 [4th Coin Slot Switch]
J603-5	BLU-RED	Dedicated switch return 19 [Center Dollar Bill Acceptor]
J603-6	BLU-BRN	Dedicated switch return 18 [Right Coin Switch]
J603-7	BLU-BLK	Dedicated switch return 17 [Left Coin Switch]
J603-8	Key	
J603-9	Not Used	
J603-10	Not Used	

J604 Dedicated Switches (25-32)

J604-1	BLK	Dedicated switch common (Ground)
J604-2	Not Used	
J604-3	Not Used	
J604-4	Not Used	
J604-5	VIO-RED	Dedicated switch return 27 [Plumb Bob Tilt]
J604-6	VIO-BRN	Dedicated switch return 26 [Coin Door Open]
J604-7	Key	
J604-8	VIO-BLK	Dedicated switch return 25 [Start Button]
J604-9	Not Used	
J604-10	Not Used	

J701 AC Power Input (High)

J701-1	RED	49VAC from transformer (across RED lines)
J701-2	RED	49VAC from transformer (across RED lines)
J701-3	BLU	49VAC from transformer (across BLU lines)
J701-4	BLU	49VAC from transformer (across BLU lines)
J701-5	GRN	Chassis Ground
J701-6	GRN	Chassis Ground

J702 AC Power Input (Low)

J702-1	YEL	18VAC from transformer (across YEL lines)
J702-2	YEL	18VAC from transformer (across YEL lines)
J702-3	GRY	10VAC from transformer (across GRY lines)
J702-4	GRY	10VAC from transformer (across GRY lines)

JUSB CPU Communication (Switch Monitoring/Device Control)

Mini USB cable to CPU Board USB connector

PWR1 DC Power Input

PWR1-1	YEL	+12VDC Primary ATX Power Supply
PWR1-2	BLK	Ground from Primary ATX Power Supply
PWR1-3	BLK	Ground from Primary ATX Power Supply
PWR1-4	RED	+5VDC from Primary ATX Power Supply

Note: All I/O Board connections to J104-J113, J200-J202, 601-J603, J701 & J702 pass through in-line connectors mounted in back panel of Cabinet PCB Chassis Assembly.



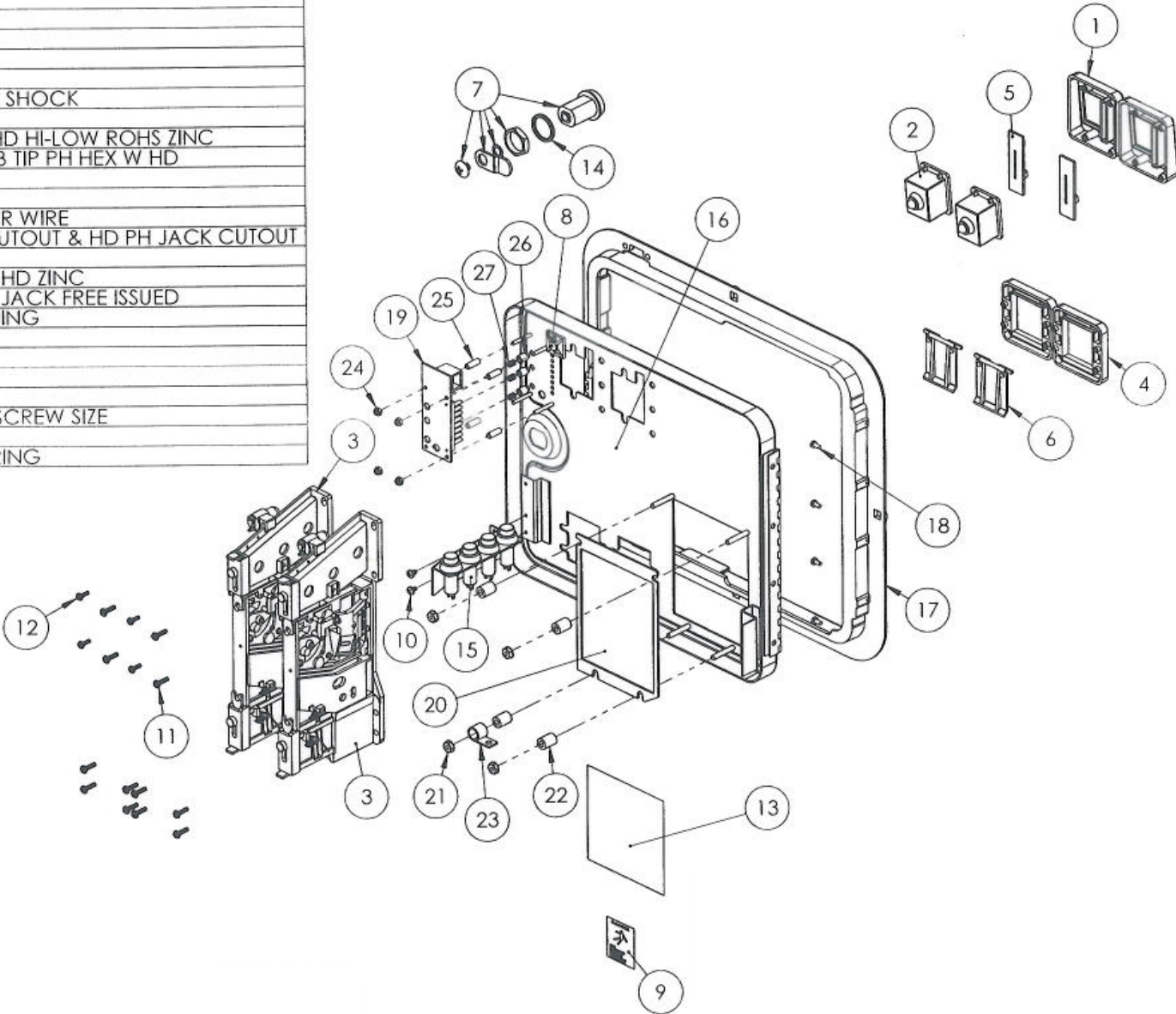
Appendices



25¢ USA Coin Door Assembly
JJP® PN 40-0001-00

ITEM NO.	QTY.	PART NUMBER	DESCRIPTION
1	2	42-0231-00D	ENTRY BEZEL, IL, PLASTIC
2	2	42-0517-05D	REJECT BUTTON ASSY. YELLOW W/HAPP .25 INSERT
3	2	42-8156-10D	MECH HOLDER .25 HAPP 6V555 LMP SW NEW DC TYPE LAMPHOLDER
4	2	42-0232-00D	RETURN BEZEL, IL, PLASTIC
5	2	42-1247-20	NEW COIN ENTRY RESTRICTOR WITH 2 TEETH
6	2	42-0119-00D	RETURN DOOR FLAP, PLASTIC
7	1	42-0641-00	LOCK ASSY 7/8 W/1 1/8" STRAIGHT CAM
8	1	43-0127-00	TIE PLATE
9	1	95-0278-00	DANGER LABEL FOR COIN DOORS ELECTRIC SHOCK
10	2	890-1015-02	SCREW #6x1/4"
11	12	48-1000-00	SCREW, F/BEZEL, LONG 6 X 12 HEX WASHER HD HI-LOW ROHS ZINC
12	4	43-1003-00	SCREW, SPL F/PLAST, #4 X .42/.39 SPL HI THD, B TIP PH HEX W HD
13	1	890-1060-00	LABEL UPSTACKER INSTRUCTIONS
14	1	42-0254-02	LOCKWASHER, F/LOCK 3/4" INTERNAL
15	1	96-0436-04	HARNESS ASSY W/DIODE, 4 BUTTONS, JUMPER WIRE
16	1	42-0612-00	PINBALL COIN DOOR W/CREDIT CRD VAL CUTOUT & HD PH JACK CUTOUT
17	1	891-1701-016	FRAME STD DR11 S2000 NOTCH BLK
18	4	890-1002-00	SCREW F/ HINGE M3X6MM .5 PITCH PH PAN HD ZINC
19	1	FI-0088-00	COIN DOOR VOL PCB W/LIGHT PIPE JERSEY JACK FREE ISSUED
20	1	891-0100-4016	BLANKING PLATE DBV (BLACK) LARGE OPENING
21	4	42-0082-00	NUT, KEPS 8-32
22	4	890-1051-00	SPACER
23	1	03-7655-6	CABLE CLAMP, 3/8" DIA.
24	4	43-1322-00	NUT NYLOCK, 4-40 HEX
25	4	43-0720-00	NYLON SPACER 3/16" OD, 1/2" LENGTH, #4 SCREW SIZE
26	3	43-0709-00	COIN DOOR PUSH BUTTON ACTUATOR
27	3	43-0714-00	COIN DOOR ACTUATOR COMPRESSION SPRING

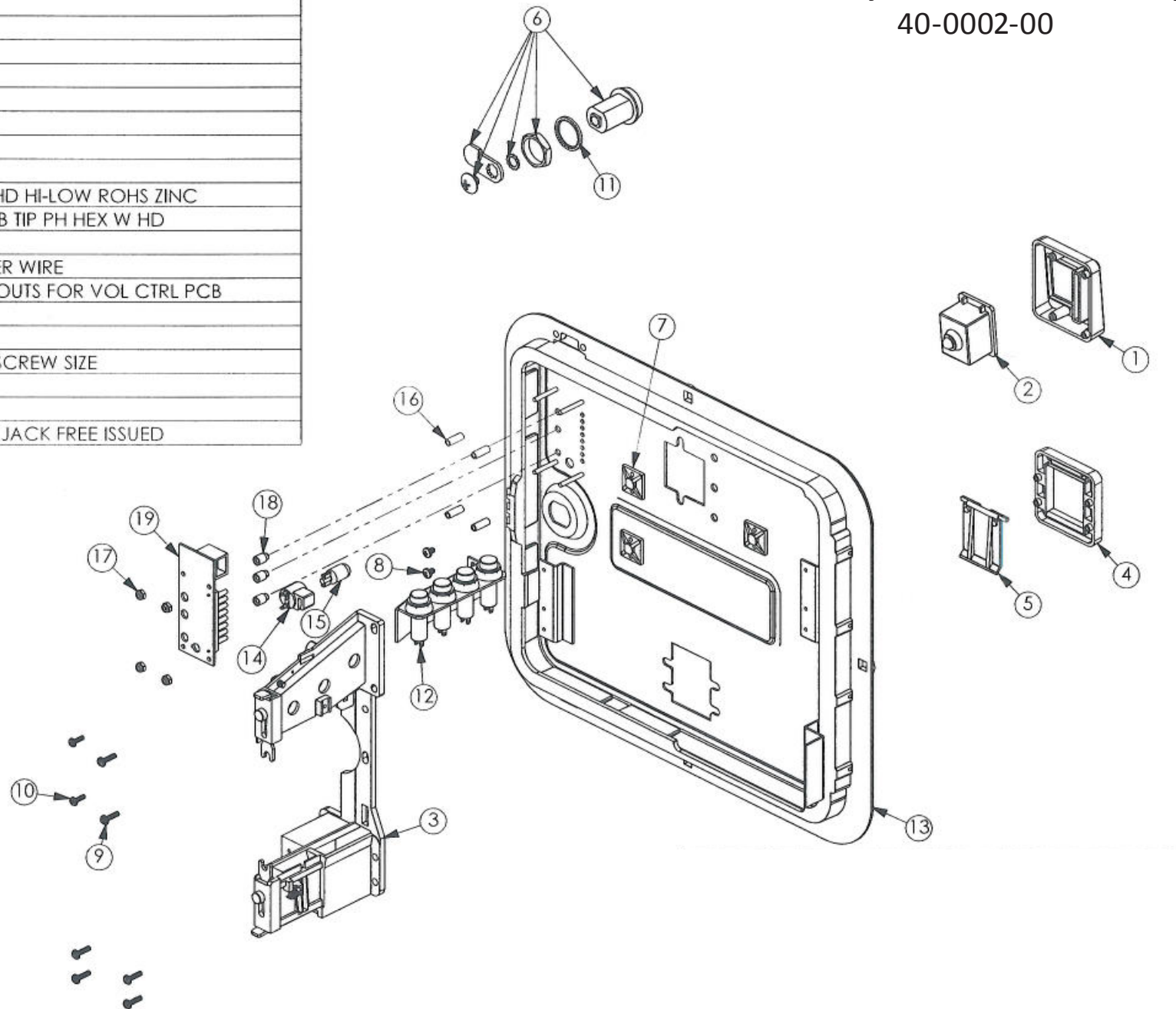
NOTE: Suzo-Happ parts and numbers are listed above.



NOTES:
ITEMS NOT SHOWN:
90-1013-00 (TIE WRAP), QTY 3
S-11136 CABLE TIE QTY 1
INS-0024 (INSTRUCTIONS ULT \$.25 US COIN MECHANISM), QTY 1
036-5509-25 HARNESS, PIN DOOR 2 SLOT & VAL W/SLAM CONNECTOR, QTY 1
TEST COIN DOOR USING TESTER # HT-126, HT-127

ITEM NO.	QTY.	PART NO.	DESCRIPTION
1	1	42-0231-00D	ENTRY BEZEL, IL, PLASTIC
2	1	42-0930-00	REJECT BT ASSY YL W/UNIV FINGER LOGO
3	1	42-7355-00D	MECH HOLDER
4	1	42-0232-00D	RETURN BEZEL, IL, PLASTIC
5	1	42-0119-00D	RETURN DOOR FLAP, PLASTIC
6	1	42-0641-00	LOCK ASSY 7/8 W/1 1/8" STRAIGHT CAM
7	3	43-0127-00	TIE PLATE
8	2	890-1015-02	SCREW #6x1/4"
9	6	48-1000-00	SCREW, F/BEZEL, LONG 6 X 12 HEX WASHER HD HI-LOW ROHS ZINC
10	2	43-1003-00	SCREW, SPL F/PLAST, #4 X .42/.39 SPL HI THD, B TIP PH HEX W HD
11	1	42-0254-02	LOCKWASHER, F/LOCK 3/4" INTERNAL
12	1	96-0436-04	HARNESS ASSY W/DIODE, 4 BUTTONS, JUMPER WIRE
13	1	42-0693-00	WELLS DOOR & FRAME ASY PINBALL W/CUTOUTS FOR VOL CTRL PCB
14	1	42-0351-00D	LAMP HOLDER
15	1	91-1319-00	LAMP #555 6.3V
16	4	43-0720-00	NYLON SPACER 3/16" OD, 1/2" LENGTH, #4 SCREW SIZE
17	4	43-1322-00	NUT NYLOCK, 4-40 HEX
18	3	43-0709-00	COIN DOOR PUSH BUTTON ACTUATOR
19	1	FI-0088-00	COIN DOOR VOL PCB W/LIGHT PIPE JERSEY JACK FREE ISSUED

NOTE: Suzo-Happ parts and numbers are listed above.



Euro-Style Coin Door Assembly 40-0002-00

NOTE:
ITEMS NOT SHOWN:
90-1013-00 - TIE WRAP - 3,
S-11136 CABLE TIE 5" LENGTH .14WIDTH 40LB NATURAL

Acronyms & Abbreviations

A	Ampere	ft	Feet	N/A	Not Applicable	SH	Socket Head
AC	Alternating Current	FTYBR	Follow The Yellow Brick Road	nF	Nanofarad	SEMS	Integral Star Lock Washer
Adj	Adjustable	ga	Gauge	nm	Nanometer	SMD	Surface-Mounted Device
Assy	Assembly	GB	Gigabyte	NPN	Transistor Type	SMS	Sheet Metal Screw
ATX	Advanced Technology Extended	GI	General Illumination	NS	Not Specified	SMT	Surface Mount Technology
Aux	Auxiliary	GND	Ground	ns	Nanosecond	SOIC-	Small-Outline Integrated Circuit (IC Package)
BB	Backbox	GRN	Green	Ω	Ohm	SPDT	Single Pole, Double Throw
Bd	Board	GRY	Gray	OD	Outside Diameter	SPST	Single Pole, Single Throw
Bidir	Bidirectional	HOADC	Horse of A Different Color	OLED	Organic Light-Emitting Diode	Std	Standard Edition
BLK	Black	IC	Integrated Circuit	ORN	Orange	Sync	Synchronous
BLU	Blue	I/O	Input/Output	PCB	Printed Circuit Board	TAN	Tan
Brkt	Bracket	IR	Infrared	pcs	Pieces	Tgt	Target
BRN	Brown	ISO	International Organization for Standardization	PEM	Brand Name, Threaded Insert	TH	Truss Head
CCW	Counterclockwise	J	Joule	pF	Picofarad	TNPLH	There's No Place Like Home
Ch	Channel	kΩ	Kilo Ohm	PFH	Phillips Flat Head	TO-	Transistor Outline (Transistor Package)
CMOS	Complementary Metal-Oxide Semiconductor	kHz	Kilohertz	PLM	Plum	TVS	Transient Voltage Suppressor
Col	Column	LAN	local area network	PPH	Phillips Pan Head	TX	Transmitter
Const	Constant	LCD	Liquid Crystal Display	PPM	Parts Per Million	μF	Microfarad
CPU	Central Processing Unit	LE	Limited Edition	PF	Playfield	UPS	Unified Power Source
CS	Cap Screw	LED	Light-Emitting Diode	PNK	Pink	USB	Universal Serial Bus
CW	Clockwise	JJP®	Jersey Jack Pinball®	PN	Part Number	V	Volt
DBA	Dollar Bill Acceptor	Lg	Large	pos	Position	VGA	Video Graphics Array
DC	Direct Current	LT BLU	Light Blue	pwr	Power	VIO	Violet
Diam	Diameter	mA	Milliampere	Qty	Quantity	VUK	Vertical Up-Kicker
DIP	Dual Inline Package	M-F	Male - Female	RCA	Brand Name Connector	W	Watt
DPDT	Double Pole, Double Throw	MHz	Megahertz	RED	Red	WS	Wood Screw
Drvr	Driver	MLCC	Multi-layer Ceramic Capacitor	rev	Revision	w/	With
DVI	Digital Video Interface	MOV	Metal Oxide Varistor	RF	Radio Frequency	WHT	White
ea	Each	M-M	Male - Male	RGB	Red, Green, Blue	WOZ	Wizard of Oz
Elect	Electrolytic	mm	Millimeter	Rnd	Round	XCVR	Transceiver
EOS	End of Stroke	MOSFET	Metal-Oxide Semiconductor Field-Effect Transistor	Rt	Right	YBR	Yellow Brick Road
F-F	Female - Female	MS	Machine Screw	RX	Receiver	YEL	Yellow
FCC	Federal Communications Commission	Mtg	Mounting	SATA	Serial Advanced Technology Attachment	"	Inch
FH	Flat Head			SD	Secure Digital	3D	Three-Dimensional
F-M	Female - Male					75	75 th Anniversary Edition

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3 balls per game

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The Wizard of Oz

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Jersey Jack Pinball®

Limited Manufacturer's Warranty



The manufacturer of this Pinball Machine, Jersey Jack Pinball® ("JJP®"), warrants to the holder of a valid proof of purchase ("Purchaser" or "You") that the Pinball Machine ("Machine" or "Product") is free from defects in material and workmanship, pursuant to the following terms and conditions, when installed and used normally and in accordance with operation instructions.

What does the Limited Warranty cover - and for how long?

1. The JJP® "Bumper to Post" Limited Warranty covers every part in your new Jersey Jack Pinball® Machine for a period of 30 days from the date of delivery of the Machine to its original Purchaser.
2. In addition, the JJP® Sound Board, I/O Driver Board, CPU, 0.96" OLED Monitor, 26"/27" LCD Monitor and RGB LED (Light) Boards are covered for a period of one year from the date of delivery of the Machine to its original Purchaser. If the Machine is used for commercial purposes (any use other than in-home use), the JJP® Sound Board, I/O Driver Board, CPU, 0.96" OLED Monitor, and 26"/27" LCD Monitor and RGB LED (Light) Boards are covered for a period of 6 months from the date of delivery of the Machine to its original Purchaser.

Who is entitled to Warranty coverage? The original Purchaser.

What will JJP® do? JJP® will repair or replace any covered part at no charge for the part, exclusive of shipping and handling charges or any labor to install the part.

What is not covered? The Limited Warranty does not cover: 1) any labor or service calls necessary to replace any part; 2) part replacement which is a result of improper installation, shipping or handling damage, negligence, misuse, abuse, alteration, modification, rust of any kind; 3) damage caused by electrical surge or by intrusion of any liquid, repairs by persons other than our authorized service personnel, fire, theft, acts of God (such as a flood), and/or improper electrical connection.

What must I do? In order to be eligible for coverage you must register your JJP® Machine within 5 days of delivery on-line at www.JerseyJackPinball.com, by emailing Service@JerseyJackPinball.com or by calling 732-364-9900.

If a covered part requires repair or replacement, email us at Service@JerseyJackPinball.com or open a service ticket at the Jersey Jack Pinball® website and enter a brief, written description of the problem. You may also call us at 732-364-9900; however all warranty claims must be in writing. For repair or replacement, the covered part must be shipped, prepaid, to us or to an authorized JJP® distributor. The repaired, or replacement part, will be returned to You upon warranty verification. In the event that You want a replacement part in advance of returning the original part to JJP®, you must order the part from your authorized distributor and advance the retail cost for the replacement part. The original part must be returned within 21 days for warranty verification. Upon verification of warranty, the amount paid for the advance replacement part will be fully refunded.

State Law Rights: This warranty gives you specific legal rights, and you may also have other rights, which vary from state to state.

Exclusive Agreement: This limited warranty is the complete and exclusive agreement between You and JJP®. It supersedes all other written or oral communications related to this Product. JJP® provides no other warranties for this Product. The warranty exclusively describes all of JJP®'s responsibilities regarding the Product. There are no other express warranties. No one is authorized to make modifications to this limited warranty and you should not rely on any such modification.

Limitations: Implied warranties, including those of fitness for a particular purpose and merchantability (an unwritten warranty that the Product is fit for ordinary use) are excluded. Some states do not allow the exclusion or limitation of implied warranties, so the above limitation or exclusion may not apply to you.

In no event shall JJP® be liable for any indirect, special, incidental, consequential, or similar damages (including, but not limited to, lost profits or revenue, inability to use the Product, or other associated equipment, the cost of substitute equipment, and claims by third parties) resulting from the use of this Product. Some states do not allow the exclusion or limitation of incidental or consequential damages, so the above limitation or exclusion may not apply to you.

WARNINGS & NOTICES

WARNING

FOR SAFETY AND RELIABILITY, substitute parts and equipment modifications are not recommended. Use of non-Jersey Jack Pinball® parts or modifications of game circuitry, may adversely affect game play, or may cause injuries. Substitute parts or equipment modifications may void FCC/Canada Type Acceptance.

PROLONGED EXPOSURE to high volume levels through the coin door headphone jack can lead to irreversible hearing loss. See page E-8 of this manual for more information.

BECAUSE THIS GAME IS PROTECTED by Federal copyright, trademark and patent laws, unauthorized game conversions may be illegal under Federal law.

THIS 'CONVERSION' PRINCIPLE ALSO APPLIES to unauthorized facsimiles of Jersey Jack Pinball® equipment, logos, designs, publications, assemblies and games (or game feature not deemed to be public domain), whether manufactured with Jersey Jack Pinball® components or not.

Notice

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WARNING

NOTE: This equipment has been tested and found to comply with the limits for a Class A digital device, pursuant to Part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference when the equipment is operated in a commercial environment. This equipment generates, uses, and can radiate radio frequency energy and, if not installed and used In accordance with the Instruction manual, may cause harmful interference to radio communications. Operation of this equipment in a residential area is likely to cause harmful interference, in which case the user will be required to correct the interference at his own expense.

This Class B digital apparatus meets all requirements of the Canadian Interference-Causing Equipment Regulations. Cet appareil numérique de la classe B respecte toutes les exigences du Règlement sur le matériel brouilleur du Canada.

RF Interference Notice

CABLE HARNESS PLACEMENTS and ground strap routing on this game have been designed to keep RF radiation and conduction within levels accepted by the FCC Rules.

TO MAINTAIN THESE LEVELS, reposition harnesses and reconnect ground straps to their original placements, if they become disconnected during maintenance.

FCC/CANADA STICKER. Check the back of your game to verify that an FCC/Canada-certification sticker was attached to your game at the factory. All Games that leave the Jersey Jack Pinball® plant have been tested and found to comply with FCC/Canada Rules. Because the sticker is proof of this fact, legal repercussions to the owner and distributor may result if the sticker is missing. If you receive a game that has no FCC/Canada sticker, call Jersey Jack Pinball® for advice or write us a note on your Game Registration Card. Be sure that the card bears your game's serial number.

FOR SERVICE...

CALL your authorized
Jersey Jack Pinball® Distributor

or VISIT our support site:
<http://support.jerseyjackpinball.com>

Jersey Jack Pinball®
1645 Oak Street
Lakewood, NJ 08701

CAUTION: Transport this game ONLY with the hinged backbox DOWN!